



	•	*	†	~	\	↓				
Movement	: *WBL	WBR.	© NBT	a a a a a a a a a a a a a a a a a a a	SBL [®]	NSBT *		A Section		
Lane Configurations	7/		1			4	*****			
Volume (veh/h)	6	6	113	7	10	109				
Sign Control	Stop		Free			Free				
Grade	4%		1%			-1%				
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88				
Hourly flow rate (vph)	10	10	133	18	13	124				
Pedestrians										
Lane Width (ft)		-								
Walking Speed (fl/s)										
Percent Blockage										
Right turn flare (veh)			.,			•1				
Median type			None			None				
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked vC, conflicting volume	293	142			151					
vC1, stage 1 conf vol	233	144			101					
vC2, stage 2 conf vol										
vCu, unblocked vol	293	142			151					
tC, single (s)	6.4	6.2			4.1					
tC, 2 stage (s)										
tF (s)	3.5	3.3			2.2					
p0 queue free %	99	99			99					
cM capacity (veh/h)	695	911			1442					
Direction, Lane # *-	WB 1	UNB.1	≇ SB1 <u>1</u>			2 x 2 级5	建筑通常	题表示的	# 18 TE	
Volume Total	19	151	137							
Volume Left	10	0	13							
Volume Right	10	18	0							
cSH	78 9	1700	1442							
Volume to Capacity	0.02	0.09	0.01							
Queue Length 95th (ft)	2	0	1							
Control Delay (s)	9.7	0.0	8.0							
Lane LOS	A	0.0	Α							
Approach Delay (s) Approach LOS	9.7 A	0.0	0.8							
• •		n kadin Link	ALLES OF THE STATE	الإنكامة المراجعة	rada, ede	t ti dell'altre en obsett	timbrantine i i salite	· Englishen), This	on and the least	
Intersection Summary	2025 A S	S. Lander	100 Marie 194	40.50	的形态	76万世纪		STAIL IN		DAKE KATH
Average Delay			1.0	10	- امیرما ا	f Carrian		Λ		
Intersection Capacity Utilization	3 (1		23.0%	IC	O F6A61 0	of Service		Α		
Analysis Period (min)			15							

	(•	†	~	\	↓					
Movement	ĝWBL′.	WBR.	NBT.	NBR	s SBL	⊮SBT≟.	能源 基	75. E.			
Lane Configurations	γ/		}		-	र्भ	-				
Volume (veh/h)	6	6	115	7	10	111					
Sign Control	Stop		Free			Free					
Grade	4%		1%			-1%					
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88					
Hourly flow rate (vph)	10	10	135	18	13	126					
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)		•									
Percent Blockage											
Right turn flare (veh)											
Median type			None			None					
Median storage veh)											
Upstream signal (ft)									•		
pX, platoon unblocked											
vC, conflicting volume	297	145			154						
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	297	145			154						
tC, single (s)	6.4	6.2			4.1						
tC, 2 stage (s)											
tF (s)	3.5	3.3			2.2						
p0 queue free %	99	99			99						
cM capacity (veh/h)	691	908			1439						
Direction, Lane ##£	WB 1≉	ลีNB/II	新SB1以	4.美华地		\$,E\Q		164.694		ale en la	
Volume Total	19	154	139								
Volume Left	10	0	13								
Volume Right	10	18	0								
cSH	785	1700	1439								
Volume to Capacity	0.02	0.09	0.01								
Queue Length 95th (ft)	2	0	1								
Control Delay (s)	9.7	0.0	0.8								
Lane LOS	Α		Α								
Approach Delay (s)	9.7	0.0	8.0								
Approach LOS	Α										
Intersection Summary		\$ 11.70°							《大陆 ·蒙		
Average Delay			0.9								
Intersection Capacity Utilization	1		24.1%	1C	U Level o	f Service			Α		
Analysis Period (min)			15								

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Movement	:WBL"	∯WBR ⊊		NBR	કઃ SBાહિ	SESBT:	
Lane Configurations	¥		7>			-4	
Volume (veh/h)	157	23	115	174	29	111	
Sign Control	Stop		Free			Free	
Grade	4%		1%			-1%	
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88	
Hourly flow rate (vph)	249	37	135	458	39	126	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None	•		None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	568	364			593		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	500	004			500		
vCu, unblocked vol	568	364			593		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	2.5	2.0					
tF (s)	3.5	3.3			2.2		
p0 queue free %	47	95 605			96		
cM capacity (veh/h)	468	685	-		993		
Direction Lane # 25 3 4 2 4 4		RNB 1			作者是		
Volume Total	286	593	165				
Volume Left	249	0	39				
Volume Right	37	458	0				
cSH Valume to Canacity	488	1700	993				
Volume to Capacity	0.59 92	0.35	0.04 3				
Queue Length 95th (ft)	22.3	0 0.0	2.3				
Control Delay (s) Lane LOS	22.3 C	0.0	2.3 A				
Approach Delay (s)	22.3	0.0	2.3				
Approach LOS	Ç	0.0	2.0				
intersection Summary	is, es		·	144 1	in the second		
Average Delay			6.5				The state of the s
Intersection Capacity Utilization			44.3%	IC	U Level o	f Service	Α
Analysis Period (min)			15				• •

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Movement and the same	WBL	WBR	₩NBT	 ØNBR€	SBL	E SBT	
Lane Configurations	¥		†	77		4	
Volume (vph)	157	23	115	174	29	111	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	11	11	11	•
Grade (%)	4%		1%			-1%	
Total Lost time (s)	6.0		6.0	6.0		6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	
Frt	0.98		1.00	0.85		1.00	
FIt Protected	0.96		1.00	1.00		0.99	
Satd. Flow (prot)	1695		1809	1553		1810	
FIt Permitted	0.96		1.00	1.00		0.89	
Satd. Flow (perm)	<u>1695</u>		1809	1553		1632	
Peak-hour factor, PHF	0.63	0.63	0.85	0.38	0.75	0.88	
Adj. Flow (vph)	249	37	135	458	39	126	
RTOR Reduction (vph)	8	0	0	306	0	0	
Lane Group Flow (vph)	278	0	135	152	0	165	
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%	
Turn Type				Perm	Perm		
Protected Phases	8		2			6	
Permitted Phases				2	6		
Actuated Green, G (s)	10.9		11.4	11.4		11.4	
Effective Green, g (s)	10.9		11.4	11.4		11.4	
Actuated g/C Ratio	0.32		0.33	0.33		0.33	
Clearance Time (s)	6.0		6.0	6.0		6.0	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	539		601	516		542	
v/s Ratio Prot	c0.16		0.07				
v/s Ratio Perm				0.10		c0.10	
v/c Ratio	0.52		0.22	0.30		0.30	
Uniform Delay, d1	9.5		8.3	8.5		8.5	
Progression Factor	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.8		0.2	0.3		0.3	
Delay (s)	10.4		8.5	8.8		8.8	
Level of Service	В		Α	Α		Α	
Approach Delay (s)	10.4		8.7			8.8	
Approach LOS	В		Α			Α	
Intersection Summary	即有的	第四次	显然担 等	建	District	SPEN.	
HCM Average Control Dela	ıy		9.2	H	CM Level	of Servic	e A
HCM Volume to Capacity ra	atio		0.41				
Actuated Cycle Length (s)			34.3		ım of lost		12.0
Intersection Capacity Utiliza	ation		34.2%	IC	U Level o	f Service	Α
Analysis Period (min)			15				
c Critical Lane Group							

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Lane Group	WBL W	WBR	® NBT €	NRR'	SWSRI S	SES SRT	
Lane Configurations	₩	1,100	A	7	184.12.00-10	<u>-∓</u>	TO SHARE THE THE ACTION OF THE STATE SHARES SHARES SHARES SHARES AND
Volume (vph)	157	23	.115	174	29	111	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	1300	
Grade (%)	4%	11	1%		11	-1%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frt ·	0.983	ı.Ų0	1.00	0.850	1.00	1.00	
Flt Protected	0.958			Ų.63Ų		0.988	
Satd. Flow (prot)	1695	0	1809	1553	0	1810	
Fit Permitted	0.958	U	1003	1333	U	0.891	
	1695	٥	1000	1550	٥		
Satd. Flow (perm)	1093	0	1809	1553	0	1632	
Right Turn on Red	40	Yes		Yes			
Satd. Flow (RTOR)	12	•	40	458		10	
Link Speed (mph)	25		40			40	
Link Distance (ft)	597		468			377	
Travel Time (s)	16.3		8.0			6.4	
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88	
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%	
Adj. Flow (vph)	249	37	135	458	39	126	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	286	0	135	458	0	165	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	11		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.07	1.07	1.05	1.05	1.04	1.04	
Turning Speed (mph)	15	9		9	15	•	
Number of Detectors	1		2	1	1	2	
Detector Template	Left		Thru	Right	Left	Thru	
Leading Detector (ft)	20		100	20	20	100	
Trailing Detector (ft)	0		0	0	0	0	•
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	20		6	20	20	6	·
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	Cl+Ex	CI+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			6			6	
Detector 2 Type			CI+Ex			CI+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type			0.4	Perm	Perm	2.3	
Protected Phases	8		2	. 7,,,,	. 5	6	
Permitted Phases	Ū		_	2	6	J	
Detector Phase	8		2	2	6	6	
					<u> </u>	<u> </u>	

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Lane Group	- WBL		NBT.	T NBR	SBL*	SBT	
Switch Phase		-					
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0		22.0	22.0	22.0	22.0	
Total Split (s)	31.0	0.0	39.0	39.0	39.0	39.0	
Total Split (%)	44.3%	0.0%	55.7%	55.7%	55.7%	55.7%	
Maximum Green (s)	25.0		33.0	33.0	33.0	33.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	6.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Recall Mode	None		Min	Min	Min	Min	
Walk Time (s)	5.0		5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
v/c Ratio	0.53		0.23	0.56		0.31	
Control Delay	13.2		10.4	4.4		11.3	
Queue Delay	0.0		0.0	0.0		0.0	
Total Delay	13.2		10.4	4.4		11.3	
Queue Length 50th (ft)	34		16	0		21	
Queue Length 95th (ft)	63		47	0		60	
Internal Link Dist (ft)	517		388			297	
Turn Bay Length (ft)							
Base Capacity (vph)	1322		1691	1482		1526	
Starvation Cap Reductn	0		0	0		0	
Spillback Cap Reductn	0		0	0		0	
Storage Cap Reductn	0		0	0		0	
Reduced v/c Ratio	0.22		0.08	0.31		0.11	

Intersection Summary 1997 And 1997 April 199

Area Type:

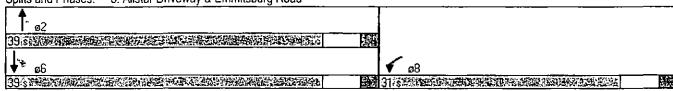
Other

Cycle Length: 70

Actuated Cycle Length: 34.6

Natural Cycle: 45

Control Type: Actuated-Uncoordinated



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Movement	Z WBE	: WBR	NBT NBT	- NBR €	SBL®	A SBT			
Lane Configurations	W		1			स			
Volume (veh/h)	6	6	120	7	11	116			
Sign Control	Stop		Free			Free			
Grade	4%		1%			-1%			
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88			
Hourly flow rate (vph)	10	10	141	18	15	132			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type			None			None			
Median storage veh)									
Upstream signal (ft)									
pX, platoon unblocked vC, conflicting volume	312	150			160				
vC1, stage 1 conf vol	312	100			100				
vC2, stage 2 conf vol									
vCu, unblocked vol	312	150			160				
tC, single (s)	6.4	6.2			4.1				
tC, 2 stage (s)		,							
tF (s)	3.5	3.3			2:2				
p0 queue free %	99	99			99				
cM capacity (veh/h)	678	901			1432				
Direction Lane #	<u> </u>	-[NB:1]	SB.1	1. <u>1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1</u>		ria in the	ON THE SEC	医疗外提升	
Volume Total	19	160	146 -						
Volume Left	10	0	15						
Volume Right	10	18	0						
cSH	774	1700	1432						
Volume to Capacity	0.02	0.09	0.01						
Queue Length 95th (ft)	2	0	1						
Control Delay (s)	9.8	0.0	8.0						
Lane LOS	A	0.0	A						
Approach Delay (s)	9.8	0.0	8.0						
Approach LOS	Α								
Intersection Summary	从上述	THE STATE OF	A WEST		322		的社会。		SVENIER I
Average Delay			0.9						
Intersection Capacity Utiliza	ation		25.2%	IC	U Level o	f Service		Α	
Analysis Period (min)			15						

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Movement 200	SSMAWBLM	型WBR	適NBT	警NBR編	SBL	ESBT PA	West Ba			2-11 B	
Lane Configurations	**		‡							-	
Volume (veh/h)	157	23	120	174	30	116					
Sign Control	Stop		Free			Free					
Grade :	4%		1%			-1%.		٠			
Peak Hour Factor	0.63	0.63	0.85	0.38	0.75	0.88					
Hourly flow rate (vph)	249	37_	141	458	40	132 😁	4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	ا الميانية الميانية ال		ng sa es	
Pedestrians											
Lane Width (ft)			·!-	العبا		3	* * * *	1. B. 1.031	S. Seeker	學的意	
Walking Speed (ft/s)											
Percent Blockage			٠.					- . +-4	• • • •		r in the state of the
Right turn flare (veh)											
Median type	1 · ·		None'	******		None 🗀		f~: ".		به خی د می	是是語言
Median storage veh)											
Upstream signal (ft)			•		•		47,			•	
pX, platoon unblocked										1.0	
vC conflicting volume	582	370	•	• •	599		4.4	• •		- 4	[14] #14#.
vC1, stage 1 conf vol											
vC2, stage 2 conf vol				•							
vCu, unblocked vol	582	370			599						
tC-single (s)	6.4	6.2			4:1	•					· Car
tC, 2 stage (s)	0.5	0.0									
tF _s (s)	3:5	3,3			2.2			• •		•	•
p0 queue free %	46	95		. Pate Dates	96	u.≓ Bazti, Čisti		وومصو مادي ج	ffr. Lineau as r		and to have
cM capacity (veh/h)	459	680	1,45	,對實際	- 988	(建筑)			10000		
Direction Lane # 1855	生生温WB/1类	意NB 新紫	ZSB/I	Y 4 1 1		地型學	光色设	1 0 E			學問題
Volume Total	≥ 286	£4599.	÷ 5172	75.	TE PR	建 成分为			V Fee 14	(2) 对于	製品製
Volume Left	249	0	40								
Volume Right	37	458	∵ ∻0 .				, ,			. · *,	
cSH	479	1700	988								
Volume to Capacity	-0.60	0.35	0.04	<i>,</i> •	•		- 3-		100		
Queue Length 95th (ft)	96	0	3								
Control Delay (s)	23.1	0.0	2.3		: ,		-				15 (SS) 1°
Lane LOS	С		Α								
Approach Delay (s)	23,1	0.0	2.3	1.4	أراره الموثق	÷		•		1	10 A 4 4 4 4
Approach LOS	С										
intersection Summary		点形态效						JE NIZA			
Average Delay			6.6				-				
Intersection Capacity Uti	ilization		44.8%	ICI	U Level o	f Service			Α	•	
Analysis Period (min)			15								
											• •
-											

Overall LOS = 7.2 sec/vel = LOS A

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Movement	WE WBL	WBR 3	€NBT≱	NBR.	禁SBI的	SBT	
Lane Configurations	**/		<u></u>	7		4	Figure 2017 1995 Care Commission Statement (1997) 1997 - Statement Commission
Volume (vph)	157	23	120	174	30	116	•
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	11	11	11	
Grade (%)	4%		1%			-1%	
Total Lost time (s)	6.0		6.0	6.0		6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	
Frt	0.98		1.00	0.85		1.00	•
Fit Protected	0.96		1.00	1.00		0.99	
Satd. Flow (prot)	1695		1809	1553		1811	
Flt Permitted	0.96		1.00	1.00		0.89	
Satd. Flow (perm)	1695		1809	1553		1633	
Peak-hour factor, PHF	0.63	0.63	0.85	0.38	0.75	0.88	
Adj. Flow (vph)	249	37	141	458	40	132	
RTOR Reduction (vph)	8	0	0	303	0	0	
Lane Group Flow (vph)	278	0	141	155	0	172	
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%	
Turn Type				Perm	Perm		
Protected Phases	8		2			6	
Permitted Phases				2	6		
Actuated Green, G (s)	10.9		11.7	11.7		11.7	
Effective Green, g (s)	10.9		11.7	11.7		11.7	
Actuated g/C Ratio	0.32		0.34	0.34		0.34	
Clearance Time (s)	6.0		6.0	6.0		6.0	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	534		612	525		552	
v/s Ratio Prot	c0.16		0.08				
v/s Ratio Perm				0.10		c0.11	
v/c Ratio	0.52		0.23	0.29		0.31	
Uniform Delay, d1	9.7		8.2	8.4		8.5	
Progression Factor	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.9		0.2	0.3		0.3	
Delay (s)	10.6		8.4	8.7		8.8	
Level of Service	В		Α	Α		Α	
Approach Delay (s)	10.6		8.7			8.8	
Approach LOS	В		Α			Α	
Intersection Summary						Com Hale	2世紀2012年1日 1200年1日 1200年1日
HCM Average Control Dela	ау		9.2	H	CM Level	of Servic	e A
HCM Volume to Capacity (ratio		0.41				
Actuated Cycle Length (s)			34.6		um of lost		12.0
Intersection Capacity Utiliz	ation		34.5%	IC	U Level o	f Service	Α
Analysis Period (min)			15				
c Critical Lane Group							

	€	•	†	<i>></i>	\	↓	
Lane Group And	SEWBL.	:NBR	isanbts	∴NBR -	(SBL)	SBT	AL COMPLETE OF STATE
Lane Configurations	**	,	↑	7		ન	provide the same of the same o
Volume (vph)	157	23	120	174	30	116	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	
Grade (%)	4%		1%	• •	• • •	-1%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fri	0.983	1.00	1.00	0.850	1.00	1.00	
Flt Protected	0.958			0.000		0.989	
Satd. Flow (prot)	1695	0	1809	1553	0	1812	
Flt Permitted	0.958	Ū	1005	1000	•	0.892	
Satd. Flow (perm)	1695	0	1809	1553	0	1634	
Right Turn on Red	1050	Yes	1000	Yes	U	1004	
Satd. Flow (RTOR)	12	163		458			
Link Speed (mph)	25		40	400		40	•
Link Distance (ft)	597		468			377	
Travel Time (s)	16.3		8.0			6.4	
Peak Hour Factor	0.63	0.65		0.20	0.75		·
		0.63	0.85	0.38	0.75	0.88	
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%	
Adj. Flow (vph)	249	37	141	458	40	132	
Shared Lane Traffic (%)	000		444	450	•	470	
Lane Group Flow (vph)	286	.0	141	458	.0	172	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	11		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane	4.07	4.0=	4.05	4.05	4.04		
Headway Factor	1.07	1.07	1.05	1.05	1.04	1.04	
Turning Speed (mph)	15	9	_	9	15	_	
Number of Detectors	1		_ 2	1	1	2	
Detector Template	Left		Thru	Right	Left	Thru	
Leading Detector (ft)	20		100	20	20	100	
Trailing Detector (ft)	0		0	0	0	0	
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	20		6	20	20	6	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			.6			- 6	
Detector 2 Type			CI+Ex			CI+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type				Perm	Perm		
Protected Phases	8		2			6	
Permitted Phases				2	6		
Detector Phase	8		2	2	6	- 6	

	•	*	1	~	/	1	
Lane Group	EXWBIN	WBR	NBT	NBR:	SBL	₩ SBT	
Switch Phase				-			
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0		22.0	22.0	22.0	22.0	
Total Split (s)	31.0	0.0	39.0	39.0	39.0	39.0	•
Total Split (%)	44.3%	0.0%	55.7%	55.7%	55.7%	55.7%	
Maximum Green (s)	25.0		33.0	33.0	33.0	33.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	6.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	•	3.0	3.0	3.0	3.0	
Recall Mode	None		Min	Min	Min	Min	
Walk Time (s)	5.0		5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
v/c Ratio	0.53		0.23	0.56	•	0.31	
Control Delay	13.5		10.4	4.4		11.3	
Queue Delay	0.0		0.0	0.0		0.0	
Total Delay	13.5		10.4	4.4		11.3	
Queue Length 50th (ft)	34		17	0		22	
Queue Length 95th (ft)	63		49	Ö		62	
Internal Link Dist (ft)	517		388	•		297	
Turn Bay Length (ft)	- · ·						
Base Capacity (vph)	1245		1678	1474		1516	
Starvation Cap Reductn	0		0	0		0	
Spillback Cap Reductn	0		Ö	ő		ŏ	
Storage Cap Reductin	Ö		ŏ	ő		Ŏ	
Reduced v/c Ratio	0.23		0.08	0.31		0.11	
Intersection Summary				4			

Area Type:

Other

Cycle Length: 70

Actuated Cycle Length: 34.9

Natural Cycle: 45

Control Type: Actuated-Uncoordinated



	•	*	†	<i>></i>	\	↓	
Movement	.≝⊮WBLći	WBR	NBT.	NBR :	ين ^ي SBL.	چين SBT	
Lane Configurations	*,1		1 →			4	
Volume (veh/h)	3	9	136	29	18	118	
Sign Control	Stop		Free			Free	
Grade	4%		1%			-1%	
Peak Hour Factor	0.75	0.50	0.89	0.78	0.50	0.81	
Hourly flow rate (vph)	4	18	153	37	36	146	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)			NI.				
Median type			None			None	
Median storage veh) Upstream signal (ft)							,
pX, platoon unblocked							
vC, conflicting volume	389	171			190		
vC1, stage 1 conf vol	000				150		
vC2, stage 2 conf vol							
vCu, unblocked vol	389	171			190		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	99	98			97		
cM capacity (veh/h)	602	877			1396		
Direction Lane # White	WB 1氪	NB 1	息SB-1多		用 。		
Volume Total	22	190	182				
Volume Left	4	0	36				
Volume Right	18	37	0				
cSH	810	1700	1396				
Volume to Capacity	0.03	0.11	0.03				
Queue Length 95th (ft)	2	0	2				
Control Delay (s)	9.6	0.0	1.7				
Lane LOS	A	0.0	A				
Approach Delay (s) Approach LOS	9.6	0.0	1.7				
• •	Α						
Intersection Summary	斯里的	公司		STARS.		新 和20	
Average Delay			1.3		144	. Ca-da-	A
Intersection Capacity Utilizat	ion		29.5%	IC	U Level o	Service	A
Analysis Period (min)			15				

Overall Los: 1.1 see/rel = Los A

	1	*	†	/	\	ļ				
Movement	.'WBL	WBR	NBT.	NBR"	¥£SBL™	SBT ≅ B				
Lane Configurations	*,*		7+			ન				
Volume (veh/h)	3	9	138	29	18	120				
Sign Control	Stop		Free			Free				
Grade	4%		1%			-1%				
Peak Hour Factor	0.75	0.50	0.89	0.78	0.50	0.81				
Hourly flow rate (vph)	4	18	155	37	36	148				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type			None			None				
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked	004				400					
vC, conflicting volume	394	174			192					
vC1, stage 1 conf vol										
vC2, stage 2 conf vol	204	474			400					
vCu, unblocked vol	394 6.4	174 6.2			192					
tC, single (s) tC, 2 stage (s)	0.4	0.2			4.1					
tF (s)	3.5	3.3			2.2					
p0 queue free %	99	98			97					
cM capacity (veh/h)	598	875			1393					
Direction Lane # 1958 2			SB1∰		ing ip act					
Volume Total	22	192	184	STARA GEV	STATE OF THE SERVICE	er an in the agence	Pas Alexandra Managemen		W. Saulunet Hiteland	
Volume Left	4	0	36							
Volume Right	18	37	0							
cSH	807	1700	1393							
Volume to Capacity	0.03	0.11	0.03							
Queue Length 95th (ft)	2	0	2							
Control Delay (s)	9.6	0.0	1.7							
Lane LOS	Α		Α							
Approach Delay (s)	9.6	0.0	1.7							
Approach LOS	Α									
Intersection Summary	建 机基度	LIGHT								
Average Delay			1.3							
Intersection Capacity Utilization	n		29.7%	łC	U Level o	f Service		Α		
Analysis Period (min)			15							

Overall LOS = 1.1 sec/rel = LOS A

	•	•	†	/	-	↓		
Movement 1997	₩BL*	WBR	ANBT。	NBR	N SBL	SBT		
Lane Configurations	N/4		1→			ર્ન		
Volume (veh/h)	181	29	138	223	40	120		
Sign Control	Stop		Free			Free		
Grade	4%		1%			-1%		
Peak Hour Factor	0.75	0.50	0.89	0.78	0.50	0.81		
Hourly flow rate (vph)	241	58	155	286	80	148		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			None			None		
Median storage veh)								
Upstream signal (ft)								
pX, platoon unblocked								
vC, conflicting volume	606	298			441			
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	606	298			441			
tC, single (s)	6.4	6.2			4.1			
tC, 2 stage (s)	0.5				••			
tF (s)	3.5	3.3			2.2			
p0 queue free %	44	. 92			93			
cM capacity (veh/h)	430	746			1130			
Direction Lane # 2 140 200 1								
Volume Total	299	441	228					
Volume Left	241	0	80					
Volume Right	58	286	0					
cSH	468	1700	1130					
Volume to Capacity	0.64	0.26	0.07					
Queue Length 95th (ft)	110	0	6					
Control Delay (s)	25.3	0.0	3.4					
Lane LOS	D 25.3	0.0	A 3.4					
Approach Delay (s) Approach LOS	23.3 D	0.0	3.4					
, ,	U •=.43*24.4	L · s live l'alle	wich enderfalleren.	an er German en	FT 1578.11 321/1 pNV:	electronic (No. 1 and Address	·····································	errede and table to extend
Intersection Summary	E Street,	CHY S		4.4	in the second	学品等		医部胚层型 系
Average Delay			8.6	10	allia - L	f O = m ! = :	A	
Intersection Capacity Utilization			51.3%	iC	U Level o	i Service	Α	
Analysis Period (min)			15					

Overell Los = 8.0 sec/rel = Los A

	€	•	†	/	-	ļ	
Movement	WBL &	数 WBR基	器NBT	NBR 3	SBL	SBT-≟	
Lane Configurations	W		†	7		र्स	
Volume (vph)	1 81	29	138	223	40	120	
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	· 11	11	11	
Grade (%)	4%		1%			-1%	
Total Lost time (s)	6.0		6.0	6.0		6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	
Frt	0.97		1.00	0.85		1.00	
Fit Protected	0.96		1.00	1.00		0.98	
Satd. Flow (prot)	1685		1809	1553		1814	
Flt Permitted	0.96		1.00	1.00		0.82	
Satd. Flow (perm)	1685		1809	1553		1516	
Peak-hour factor, PHF	0.75	0.50	0.89	0.78	0.50	0.81	
Adj. Flow (vph)	241	58	155	286	80	148	
RTOR Reduction (vph)	15	0	0	188	0	0	
Lane Group Flow (vph)	284	ŏ	155	98	Ö	228	
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	
Turn Type				Perm	Perm		
Protected Phases	8		2	1 01111	1 01111	6	
Permitted Phases	· ·		-	2	6	v	
Actuated Green, G (s)	11.5		12.3	12.3	v	12.3	
Effective Green, g (s)	11.5		12.3	12.3		12.3	
Actuated g/C Ratio	0.32		0.34	0.34		0.34	
Clearance Time (s)	6.0		6.0	6.0		6.0	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	541		622	534		521	
v/s Ratio Prot	c0.17		0.09	304		521	
v/s Ratio Prof v/s Ratio Perm	CO. 17		0.03	0.06		c0.15	
v/c Ratio	0.53		0.25	0.00		0.44	•
Uniform Delay, d1	9.9		8.4	8.2		9.1	
Progression Factor	1.00		1.00	1.00		1.00	
incremental Delay, d2	0.9		0.2	0.2		0.6	
	10.8		8.6	8.4		9.7	
Delay (s) Level of Service	10.0 B		0.0 A	Δ.		3.7 A	
Approach Delay (s)	10.8		8.5	^		9.7	
Approach LOS	10.8 B		6.5 A			<i>3.1</i> A	
				ർഷം ക്ക ിങ്ങ	Total manager state	/\ \take====================================	BELLONGERT A. N. L. J. E. F. H. P. H. M. D. N. J. A. W. CHARLENG AND MENNING FOR THE STANDARD SHAP.
Intersection Summary			The USE		的。自身的		
HCM Average Control Del	•		9.5	Н	CM Level	of Servic	e A
HCM Volume to Capacity			0.48	^			10.0
Actuated Cycle Length (s)			35.8		um of lost	. ,	12.0
Intersection Capacity Utiliz	ration		42.6%	IC	U Level o	of Service	· A
Analysis Period (min)			15				
c Critical Lane Group							

	✓	*	†	/	-	Ţ	
Lane Group	多名WRI 過	WRR!	認NBT	₩ NRR®	SSRIS.	SETSETS	
Lane Configurations	Y	Satura -	<u>#22#,1125/fis</u> ↑	<u>المرادة المرادة المرا</u>	(SLS, F.Y. O D L .)	હ્યું કુ કુ કુ કુ ન	CENTER CONTRACT OF THE CONTRACT CONTRAC
Volume (vph)	181	29	138	223	40	120	
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	
Grade (%)	4%	•	1%			-1%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.974	1.00	1.00	0.850	1.00	1.00	
Flt Protected	0.961			0.000		0.983	
Satd. Flow (prot)	1685	0	1809	1553	0	1814	
Flt Permitted	0.961	•	1000	1000	Ū	0.821	
Satd. Flow (perm)	1685	0	1809	1553	0	1515	
Right Turn on Red	1000	Yes	1000	Yes	v	1010	
Satd. Flow (RTOR)	22	103		286			
Link Speed (mph)	25		40	200		40	
Link Distance (ft)	597		468			377	
Travel Time (s)	16.3		8.0			6.4	
Peak Hour Factor	0.75	0.50	0.89	0.78	0.50	0.81	
Heavy Vehicles (%)	0.75	0.30	1%	0.70	0.30	0%	
Adj. Flow (vph)	241	58	155	286	80	148	
Shared Lane Traffic (%)	241	JQ	133	200	00	140	
	299	٥	155	286	^	228	
Lane Group Flow (vph) Enter Blocked Intersection		0 No	No	No	0 No	No	
	No				Left	Left	
Lane Alignment	Left	Right	Left	Right	Leit	0	
Median Width(ft)	11		0			0	
Link Offset(ft)	0 16		0 16			16	
Crosswalk Width(ft)	10		10			10	
Two way Left Turn Lane	1.07	1 07	1.05	1.05	1.04	1.04	
Headway Factor	1.07	1.07	1.05			1.04	
Turning Speed (mph)	15	9	2	9	15	2	
Number of Detectors	1			•	1		
Detector Template	Left		Thru	Right	Left	Thru 400	
Leading Detector (ft)	20		100	20	20	100	
Trailing Detector (ft)	0		0	0	0	0	
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	20		6	20	20	6	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	Cl+Ex	
Detector 1 Channel						0.0	
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			6			6	
Detector 2 Type			Ci+Ex			CI+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0	_	_	0.0	
Turn Type			_	Perm	Perm	_	
Protected Phases	8		2	_	_	6	
Permitted Phases				2	6		
Detector Phase	8		2	2	6	6	

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Lane Group		ŵWBR∙	NBT	ŃBŖ	.∜ SBL⊸	SBT	
Switch Phase							
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0		22.0	22.0	22.0	22.0	
Total Split (s)	36.0	0.0	34.0	34.0	34.0	34.0	
Total Split (%)	51.4%	0.0%	48.6%	48.6%	48.6%	48.6%	
Maximum Green (s)	30.0		28.0	28.0	28.0	28.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	6.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Recall Mode	None		Min	Min	Min	Min	
Walk Time (s)	5.0		5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
v/c Ratio	0.54		0.25	0.40		0.44	
Control Delay	13.3		10.8	3.7		13.3	
Queue Delay	0.0		0.0	0.0		0.0	
Total Delay	13.3		10.8	3.7		13.3	
Queue Length 50th (ft)	38		20	0		32	
Queue Length 95th (ft)	79		58	23		78	
Internal Link Dist (ft)	517		388			297	
Tum Bay Length (ft)							
Base Capacity (vph)	1433		1433	1290		1200	
Starvation Cap Reductn	0		0	0		0	
Spillback Cap Reductn	0		0	0		0	
Storage Cap Reductn	0		0	0		0	
Reduced v/c Ratio	0.21		0.11	0.22		0.19	
Intersection Summary	所指别 ()		集中文组	學想影			

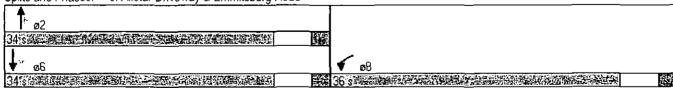
Area Type: Othe

Cycle Length: 70

Actuated Cycle Length: 36.1

Natural Cycle: 45

Control Type: Actuated-Uncoordinated



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Movement	,≓.WBL∋	WBR.	,∴NBT∆	NBR	SBL	容SBT變	
Lane Configurations	¥ç#		<u> </u>			4	
Volume (veh/h)	3	10	144	31	19	125	
Sign Control	Stop		Free			Free	
Grade	4%		1%			-1%	
Peak Hour Factor	0.75	0.50	0.89	0.78	0.50	0.81.	
Hourly flow rate (vph)	4	20	162	40	38	154	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	412	182			202		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	412	182			202		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	99	98			97		
cM capacity (veh/h)	583	866			1382		
Direction Lane # 124	WB 1	NB_1,	電SBII數	新型 等		10 00年計	
Volume Total	24	202	192				
Volume Left	4	0	38				
Volume Right	20	40	0				
cSH	801	1700	1382				
Volume to Capacity	0.03	0.12	0.03				
Queue Length 95th (ft)	2	0	2				
Control Delay (s)	9.6	0.0	1.7				
Lane LOS	Α		Α				
Approach Delay (s)	9.6	0.0	1.7				
Approach LOS	Α						
Intersection Summary	深刻表	(物)高	可能能够				
Average Delay			1.3				
Intersection Capacity Utilization	ıΠ		30.4%	Ю	U Level o	f Service	Α
Analysis Period (min)			15				

Overall LOS = 1.1 sec/let = LOS A

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Movement	WBL	- WBR	- NBT	NBR	SBL	SBT .	
Lane Configurations	**					स	
Volume (veh/h)	181	30	144	225	41	125	
Sign Control	Stop		Free			Free	
Grade	4%		1%			-1%	
Peak Hour Factor	0.75	0.50	0.89	0.78	0.50	0.81	
Hourly flow rate (vph)	241	60	162	288	82	154	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							·
vC, conflicting volume	624	306			450		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked voi	624	306			450		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	42	92			93		
cM capacity (veh/h)	4,19	738			1121		
Direction, Lane, #.生物學		SNB 13					
Volume Total	301	450	236				
-Volume Left	241	0	82				
Volume Right	60	288	0				
cSH	458	1700	1121				
Volume to Capacity	0.66	0.26	0.07				
Queue Length 95th (ft)	116	0	6				
Control Delay (s)	26.7	0.0	3.4				
Lane LOS	D		A				
Approach Delay (s)	26.7	0.0	3.4				
Approach LOS	D						
Intersection Summary	Yelly	的植物		MAKE A	建制制	泛组织	
Average Delay			9.0			_	
Intersection Capacity Utilization			52.1%	IC	U Level of	Service	Α
Analysis Period (min)			15				

Overall Los . B. 3 sec/vel = Los A

	*	•	†	1	-	ļ	
Movement	E E E WELV	WBR	被NBT為	₹NBR	e SBI≌	SBT	
Lane Configurations	¥	p1,11,1 1 1,1 p1.5	A	<u>المرابعة المرابعة ا</u>	2.000,	<u>ःज्</u> रा	anne ser, autre de la production en reginne de président ser production de la président de la material de la c
Volume (vph)	181	30	144	225	41	125	
ldeal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	11	11	11	
Grade (%)	4%		1%			-1%	
Total Lost time (s)	6.0		6.0	6.0		6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	
Frt	0.97		1.00	0.85		1.00	
FIt Protected	0.96		1.00	1.00		0.98	
Satd. Flow (prot)	1684		1809	1553		1814	
FIt Permitted	0.96		1.00	1.00		0.82	
Satd. Flow (perm)	1684		1809	1553		1 513	
Peak-hour factor, PHF	0.75	0.50	0.89	0.78	0.50	0.81	
Adj. Flow (vph)	241	60	162	288	82	154	
RTOR Reduction (vph)	15	0	0	189	0	0	
Lane Group Flow (vph)	286	0	162	99	0	236	
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	
Turn Type				Perm	Perm		
Protected Phases	8		2			6	
Permitted Phases				2	6		
Actuated Green, G (s)	11.7		12.5	12.5		12.5	
Effective Green, g (s)	11.7		12.5	12.5		12.5	
Actuated g/C Ratio	0.32		0.35	0.35		0.35	
Clearance Time (s)	6.0		6.0	6.0		6.0	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	<u> </u>
Lane Grp Cap (vph)	544		625	536		522	
v/s Ratio Prot	c0.17		0.09				•
v/s Ratio Perm				0.06		c0.16	
v/c Ratio	0.53		0.26	0.19		0.45	
Uniform Delay, d1	10.0		8.5	8.3		9.2	
Progression Factor	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.9		0.2	0.2		0.6	
Delay (s)	10.9		8.7	8.5		9.8	
Level of Service	В		Α	Α		A	
Approach Delay (s)	10.9		8.6			9.8	
Approach LOS	В	_	Α			Α	
Intersection Summary 💥				7.12		走過多	
HCM Average Control Dela	•		9.6	H	CM Level	ot Servic	e A
HCM Volume to Capacity r	ratio		0.49	-			40.0
Actuated Cycle Length (s)			36.2		ım of lost		12.0
Intersection Capacity Utiliz	ation		43.3%	IC	U Level o	t Service	Α
Analysis Period (min)			15				
c Critical Lane Group							

	€	•	†	/	>	↓	
Lane Group	WAWBL	Ø,WBR	線 NBTA	NBR.	SBL	談 SBT	
Lane Configurations	K/F		†	7		स	
Volume (vph)	181	30	144	225	41	125	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	
Grade (%)	4%		1%			-1%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.973			0.850			
Flt Protected	0.962					0.983	
Satd. Flow (prot)	1685	0	1809	1553	0	1814	
Flt Permitted	0.962					0.820	
Satd. Flow (perm)	1685	0	1809	1553	0	1514	
Right Turn on Red		Yes		Yes		•	
Satd. Flow (RTOR)	22			288			
Link Speed (mph)	25		40	200		40	
Link Distance (ft)	597		468			377	
Travel Time (s)	16.3		8.0			6.4	
Peak Hour Factor	0.75	0.50	0.89	0.78	0.50	0.81	
	0.73	0.50	1%	0.70	0.50	0.01	
Heavy Vehicles (%)	241	60	162	288	82	154	•
Adj. Flow (vph)	241	00	102	200	02	104	
Shared Lane Traffic (%)	201	0	162	288	0	236	
Lane Group Flow (vph)	301			200 No	No	No No	
Enter Blocked Intersection	No	No	No		Left		
Lane Alignment	Left	Right	Left	Right	Len	Left 0	
Median Width(ft)	11		0				
Link Offset(ft)	0		0			0 16	
Crosswalk Width(ft)	16		16			10	
Two way Left Turn Lane	4.07	4.07	4.05	4.05	4.04	4.04	
Headway Factor	1.07	1.07	1.05	1.05	1.04	1.04	
Turning Speed (mph)	15	9		9	15	0	
Number of Detectors	1		_ 2	1	1	2	
Detector Template	Left		Thru	Right	Left	Thru	
Leading Detector (ft)	20		100	20	20	100	
Trailing Detector (ft)	0		0	0	0	0	
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	20		6	20	20	6	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			6			6	
Detector 2 Type			CI+Ex			CI+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type				Perm	Perm		
Protected Phases	8		2			6	
Permitted Phases				2	6		
Detector Phase	8		2_	2	6	6	

	•	•	†	/	\	ļ	
Lane Group	A WBL	WBR	NBT.	NBR	SSBL*	SBT.	
Switch Phase					-		
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0		22.0	22.0	22.0	22.0	
Total Split (s)	36.0	0.0	34.0	34.0	34.0	34.0	
Total Split (%)	51.4%	0.0%	48.6%	48.6%	48.6%	48.6%	
Maximum Green (s)	30.0		28.0	28.0	28.0	28.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	6.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Recall Mode	None		Min	Min	Min	Min	
Walk Time (s)	5.0		5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11,0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
v/c Ratio	0.54		0.26	0.40		0.45	
Control Delay	13.5		10.9	3.7		13.5	
Queue Delay	0.0		0.0	0.0		0.0	
Total Delay	13.5		10.9	3.7		13.5	
Queue Length 50th (ft)	39		21	0		33	
Queue Length 95th (ft)	81		62	23		81	
Internal Link Dist (ft)	517		388			297	
Turn Bay Length (ft)							
Base Capacity (vph)	1420		1419	1281		1188	
Starvation Cap Reductn	0		0	0		0	
Spillback Cap Reductn	0		0	0		0	
Storage Cap Reductn	0		0	0		0	
Reduced v/c Ratio	0.21		0.11	0.22		0.20	
Intersection Summary		在		双型型		ere ara	

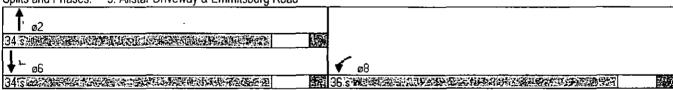
Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 36.5

Natural Cycle: 45

Control Type: Actuated-Uncoordinated



	•	*	†	/	\	↓				
Movement		::WBR	誕NBT 個	毫NBR 福	景(SBL)	SBT S				
Lane Configurations	N/		1→			4				
Volume (veh/h)	10	12	99	9	13	135				
Sign Control	Stop		Free			Free				
Grade	4%		1%			-1%				
Peak Hour Factor	0.38	0.63	0.67	0.67	0.55	0.84				
Hourly flow rate (vph)	26 -	19	148	13	24	161				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type			None			None				
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked	200	454			4.04					
vC, conflicting volume vC1, stage 1 conf vol	362	154			161					
vC1, stage 1 conf vol										
vCu, unblocked vol	362	154			161					
tC, single (s)	6.4	6.2			4.1					
tC, 2 stage (s)	ч, т	0.2			7.1					
tF (s)	3.5	3.3			2.2					
p0 queue free %	96	98			98					
cM capacity (veh/h)	630	897			1430					
Direction, Lane #	WB 1:	NB ₁	ે SB.1 ં	Sey.	NE.		THE STATE OF	建設計		
Volume Total	45	161	184							
Volume Left	26	0	24							
Volume Right	19	13	0							
cSH	720	1700	1430							
Volume to Capacity	0.06	0.09	0.02							
Queue Length 95th (ft)	5	0	1							
Control Delay (s)	10.3	0.0	1.1							
Lane LOS	B	0.0	A							
Approach Delay (s)	10.3	0.0	1.1							
Approach LOS	В									
Intersection Summary	非常别是 。	PROPERTY.								
Average Delay			1.7							
Intersection Capacity Utiliza	ation		24.5%	1Ci	U Level o	t Service		-	A	
Analysis Period (min)			15							

Overall Los. 1.4 sec/vel = Los A

	*	•	†	<i>></i>	\	ļ	
Movement And Andreas	₩BL	."WBR	"SNBT	國NBR 讀	SESBL	:∦SBT	
Lane Configurations	**		1			र्स	
Volume (veh/h)	10	12	101	9	13	137	
Sign Control	Stop		Free			Free	
Grade	4%		1%			-1%	
Peak Hour Factor	0.38	0.63	0.67	0.67	0.55	0.84	
Hourly flow rate (vph)	26	19	151	13	24	163	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	368	157			164		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	000						
vCu, unblocked vol	368	157			164		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	2.5	2.2			0.0		
tF (s)	3.5	3.3			2.2		
p0 queue free %	96	98			98		
cM capacity (veh/h)	625	893			1427		
Direction, Lane # 327/90					20,31		
Volume Total	45	164	187				
Volume Left	26	0	24				
Volume Right	19	13	0				
cSH	715	1700	1427				
Volume to Capacity	0.06	. 0.10	0.02				
Queue Length 95th (ft)	5	0	. 1				
Control Delay (s)	10.4	0.0	1.1				
Lane LOS	B	0.0	Α				
Approach Delay (s)	10.4	0.0	1.1				
Approach LOS	В						
Intersection Summary		美国教育					
Average Delay			1.7				
Intersection Capacity Utilization	ŀ		24.6%	ICI	J Level o	f Service	Α
Analysis Period (min)			15				

Overall LOJ = 1.4 sec/vel = LOS A

	•	*	†	<i>></i>	\	↓	
Movement	. WBL	WBR	A NBT	ية NBR≱	€ SBL	E SBT &	
Lane Configurations	¥		1>			स	
Volume (veh/h)	204	34	101	236	38	137	
Sign Control	Stop		Free			Free	
Grade	4%		1%			-1%	
Peak Hour Factor	0.38	0.63	0.67	0.67	0.55	0.84	
Hourly flow rate (vph)	537	54	151	352	69	163	
Pedestrians							
Lane Width (ft)							
Walking Speed (fl/s)							
Percent Blockage							
Right turn flare (veh)	•						
Median type			None			None	
Median storage veh)				•			
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	628	327			503		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	628	327			503		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	0	92			94		
cM capacity (veh/h)	420	719			1072		
	: WB/1			的最近。	副总裁		
Volume Total	591	503	232				
Volume Left	537	0	69				
Volume Right	54	352	0				
cSH	437	1700	1072				
Volume to Capacity	1.35	0.30	0.06				
Queue Length 95th (ft)	684	0	5				
Control Delay (s)	198.8	0.0	3.0				
Lane LOS	F		Α				
Approach Delay (s)	198.8	0.0	3.0				
Approach LOS	F						
Intersection Summary	the state of the	- 35 B		1.18	3 4 4		PERMITTED AND THE PE
Average Delay			89.1				
Intersection Capacity Utiliz	ation		52.5%	IC	U Level o	f Service	Α
Analysis Period (min)			15				

Overell Los = 63.8 sec/el = Los F

	€	•	†	-	1	↓	
Movement	·蒙隆WBLT	WBR	NBT X	NBR	SBL	SBT S	
Lane Configurations	**		†	7		स	
Volume (vph)	204	34	101	236	38	137	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	11	11	11	
Grade (%)	4%		1%			-1%	
Total Lost time (s)	6.0		6.0	6.0		6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	
Frt	0.99		1.00	0.85		1.00	
Flt Protected	0.96		1.00	1.00		0.99	
Satd. Flow (prot)	1700		1827	1553		1806	
Flt Permitted	0.96		1.00	1.00		0.85	
Satd. Flow (perm)	1700		1827	-1553		1550	
Peak-hour factor, PHF	0.38	0.63	0.67	0.67	0.55	0.84	
Adj. Flow (vph)	537	54	151	352	69	163	
RTOR Reduction (vph)	6	0	0	254	0	0	
Lane Group Flow (vph)	585	0	151	98	0	232	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	
Turn Type				Perm	Perm		
Protected Phases	8		2			6	
Permitted Phases	_		_	2	6	_	
Actuated Green, G (s)	21.4		12.9	12.9	_	12.9	
Effective Green, g (s)	21.4		12.9	12.9		12.9	
Actuated g/C Ratio	0.46		0.28	0.28		0.28	
Clearance Time (s)	6.0		6.0	6.0		6.0	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	786		509	433		432	
v/s Ratio Prot	c0.34		0.08				
v/s Ratio Perm				0.06		c0.15	
v/c Ratio	0.74		0.30	0.23		0.54	
Uniform Delay, d1	10.2		13.1	12.9		14.2	•
Progression Factor	1.00		1.00	1.00		1.00	
Incremental Delay, d2	3.8		0.3	0.3		1.3	
Delay (s)	14.1		13.5	13.1		15.5	
Level of Service	В		В	В		В	
Approach Delay (s)	14.1		13.2			15.5	
Approach LOS	В		В			В	
Intersection Summary							
HCM Average Control Del		THE RESERVE THE PROPERTY OF	14.0	H(CM Level	of Service	e B
HCM Volume to Capacity			0.67		Om 60101	OI OOI 4100	,
Actuated Cycle Length (s)	- G-11V		46.3	Sı	um of lost	time (s)	12.0
Intersection Capacity Utiliz	ration		39.4%			of Service	A
Analysis Period (min)			15	.0		., 00, 1100	••
c Critical Lane Group			10				
Continual Edito Group							

	€	A.	†	/	1	ļ	
Lane Group	E WBL	WBR	NBT.	NBR	SBL	S SBT	
Lane Configurations			↑	7"		4	
Volume (vph)	204	34	101	236	38	137	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	
Grade (%)	4%		1%			-1%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	•
Frt	0.988			0.850			
Flt Protected	0.957					0.985	
Satd. Flow (prot)	1702	0	1827	1553	0	1805	
Flt Permitted	0.957					0.846	
Satd. Flow (perm)	1702	0	1827	1553	0	1551	
Right Turn on Red		Y <i>es</i>		Yes			
Satd. Flow (RTOR)	11			352			
Link Speed (mph)	25		40			40	
Link Distance (ft)	597		468			377	
Travel Time (s)	16.3		8.0			6.4	
Peak Hour Factor	0.38	0.63	0.67	0.67	0.55	0.84	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	
Adj. Flow (vph)	537	54	151	352	69	163	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	591	0	151	352	0	232	
Enter Blocked Intersection	Νo	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	11	J	0	3		0	
Link Offset(ft)	0		Ö			Ō	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane			,,			. •	
Headway Factor	1.07	1.07	1.05	1.05	1.04	1.04	
Turning Speed (mph)	15	9	1.00	9	15		
Number of Detectors	1	ŭ	2	1	1	2	
Detector Template	Left		Thru	Right	Left	Thru	
Leading Detector (ft)	20		100	20	20	100	
Trailing Detector (ft)	0		0	0	0	0	
Detector 1 Position(ft)	0		ő	0	0	Ő	
Detector 1 Size(ft)	20		6	20	.20	6	
Detector 1 Type	·Cl+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel	CITEX		CITEX	OITEX	OITEX	QI-LX	
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	0.0		94	0.0	0.0	94	
			6			6	
Detector 2 Size(ft) Detector 2 Type			CI+Ex			CI+Ex	
			CITEX			OITEX	
Detector 2 Channel			0.0			0.0	
Detector 2 Extend (s)			0.0	Perm	Dorm	U.U	
Turn Type Protected Phases	D		2	reiiii	Perm	6	
Protected Phases	8		2	2	£	Ð	
Permitted Phases	8		2	2 2	6 6	6	
Detector Phase						0	

	€	•	↑	· /	-	Ţ		
Lane Group	WBL	· .WBR:	NBT	NBR	SBL	:∴\SBT	· · · · · · · · · · · · · · · · · · ·	
Switch Phase								
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0		
Minimum Split (s)	22.0		22.0	22.0	22.0	22.0		
Total Split (s)	42.0	0.0	28.0	28.0	28.0	28.0		
Total Split (%)	60.0%	0.0%	40.0%	40.0%	40.0%	40.0%		
Maximum Green (s)	36.0		22.0	22.0	22.0	22.0		
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	6.0		
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0		
Recall Mode	None		Min	Min	Min	Min		
Walk Time (s)	5.0		5.0	5.0	5.0	5.0		
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0		
Pedestrian Calls (#/hr)	0		0	0	0	0		
v/c Ratio	0.76		0.30	0.52		0.55		
Control Delay	18.1		17.3	5.5		21.9		
Queue Delay	0.0		0.0	0.0		0.0		
Total Delay	18.1		17.3	5.5		21.9		
Queue Length 50th (ft)	112		30	0		50		
Queue Length 95th (ft)	75		65	10		131		
Internal Link Dist (ft)	517		388			297		
Turn Bay Length (ft)								
Base Capacity (vph)	1347		919	956		780		
Starvation Cap Reductn	0		0	0		0		
Spillback Cap Reductn	0		0	0		0		
Storage Cap Reductn	0		0	0		0		
Reduced v/c Ratio	0.44		0.16	0.37		0.30	•	
Commission of the Commission o	were a training	ተመያቸው የማን የመጀመ	CONTRACTOR OF CASE	e control control	aremen seri d	15 4 C	en andre kriege frie frie gegen de geste de state van de state	DOWNERS THE PROPERTY OF THE PARTY OF THE PAR

Area Type:

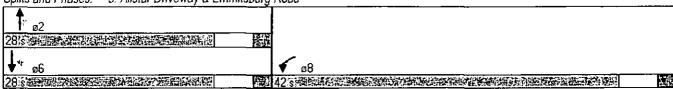
Other

Cycle Length: 70

Actuated Cycle Length: 47.2

Natural Cycle: 55

Control Type: Actuated-Uncoordinated



	*	•	†	/>	\	↓					
Movement	.≟WBL,;	, WBR	S@NBT _a	∮NBR∯	. ŠSBL	SBT					
Lane Configurations	**		1,			स					
Volume (veh/h)	11	13	105	10	14	143					
Sign Control	Stop		Free			Free					
Grade	4%		1%			-1%					
Peak Hour Factor	0.38	0.63	0.67	0.67	0.55	0.84					
Hourly flow rate (vph)	29	21	157	15	25	170					
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)											
Percent Blockage											
Right turn flare (veh)											
Median type			None			None					
Median storage veh)											
Upstream signal (ft)											
pX, platoon unblocked											
vC, conflicting volume	385	164			172						
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	385	164			172						
tC, single (s)	6.4	6.2			4.1						
tC, 2 stage (s)	2.5	2.2			0.0						
tF (s)	3.5	3.3			2.2						
p0 queue free %	95 640	98			98						
cM capacity (veh/h)	610	885			1418						
Direction, Lane # 2/2		SNB4®					列码		NAME OF STREET		
Volume Total	50	172	196								
Volume Left	29	0	25								
Volume Right	21	15	0								
cSH	701	1700	1418								
Volume to Capacity	0.07	0.10	0.02								
Queue Length 95th (ft)	6 10 5	0	1								
Control Delay (s) Lane LOS	10.5 B	0.0	1.1 A								
	10.5	0.0									
Approach Delay (s) Approach LOS	10.5 B	0.0	1,1								
• •	_	m 1865 - Martin La Prin	rolling at the same of the	17.42 / A . 2 Mar. 2 Ma	Electrical of a	مسدن او د دونودار در بالمورار.	ligger in her best and the second	namen and section of the section of	to all the sections.	Taluda, medelmanian	national management at the same
Intersection Summary	海 素证		建筑					长共享 源			24.5
Average Delay	_		1.8	10	- ا-دهٔ ااا	4 Carrias			٨		
Intersection Capacity Utilization	n		25.0%	IC	o reaei o	f Service			Α		
Analysis Period (min)			15								

Overall Los = 1.4 sec/vel = Los A

	•	*	1	/	-	Ţ	
Movement	* ASSEMBLY	WBR	实 NBT E	NBR	SBL	SBT &	
Lane Configurations	¥		1→		-	- 1	
Volume (veh/h)	205	35	105	237	39	143	
Sign Control	Stop		Free			Free	•
Grade	4%		1%			-1%	
Peak Hour Factor	0.38	0.63	0.67	0.67	0.55	0.84	
Hourly flow rate (vph)	539	56	157	354	71	170	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	646	334			510		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	2.42						
vCu, unblocked vol	646	334			510		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	2.5	2.2			0.0		
tF (s)	3.5	3.3 92			2.2		
p0 queue free %	0 410	713			93 1065		
cM capacity (veh/h)							
Direction Lane # 1/2					रक्षे के अस्ति	CHANG	
Volume Total	595	510	241				
Volume Left	539	0	71				
Volume Right	56	354	0				
cSH	427	1700	1065				
Volume to Capacity	1.39	0.30	0.07				
Queue Length 95th (ft)	720	0	5				
Control Delay (s)	217.2	0.0	3.0				
Lane LOS	F	0.0	Α				
Approach Delay (s)	217.2	0.0	3.0				
Approach LOS	F		5. a.a				
Intersection Summary 24			网络糖	的效果		有效性	
Average Delay			96.5				
Intersection Capacity Utili	zation		53.3%	IC	U Level o	f Service	Α
Analysis Period (min)			15				

Overell Los: 68.9 sec/vel = Los F

	•	*	↑	1	-	\downarrow	
Movement	WBL?	WBR	NBT	SNBR	SS SBL®	前4SBT&	
Lane Configurations	144		†	7	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	स	The state of the s
Volume (vph)	205	35	105	237	39	143	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	11	11	11	
Grade (%)	4%		1%			-1%	
Total Lost time (s)	6.0		6.0	6.0		6.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	
Frt	0.99		1.00	0.85		1.00	
FIt Protected	0.96		1.00	1.00		0.99	
Satd. Flow (prot)	1700		1827	1553		1806	
Flt Permitted	0.96		1.00	1.00		0.84	
Satd. Flow (perm)	1700		1827	1553		1548	
Peak-hour factor, PHF	0.38	0.63	0.67	0.67	0.55	0.84	
Adj. Flow (vph)	539	56	157	354	71	170	
RTOR Reduction (vph)	6	0	0	254	0	0	
Lane Group Flow (vph)	589	0	157	100	0	241	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	
Turn Type				Perm	Perm		
Protected Phases	8		2			6	
Permitted Phases				2	6		
Actuated Green, G (s)	21.7		13.2	13.2		13.2	
Effective Green, g (s)	21.7		13.2	13.2		13.2	
Actuated g/C Ratio	0.46		0.28	0.28		0.28	
Clearance Time (s)	6.0		6.0	6.0		6.0	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	787		514	437		436	
v/s Ratio Prot	c0.35		0.09				
v/s Ratio Perm				0.06		c0.16	
v/c Ratio	0.75		0.31	0.23		0.55	
Uniform Delay, d1	10.4		13.2	12.9		14.3	
Progression Factor	1.00		1.00	1.00		1.00	
Incremental Delay, d2	3.9		0.3	0.3		1.5	
Delay (s)	14.3		13.6	13.2		15.9	
Level of Service	В		В	В		В	
Approach Delay (s)	14.3		13.3			15.9	
Approach LOS	В		В			В	
Intersection Summary	ત્રેમ ાં હો સંક્રો	A PARKET	11005	机克里数量	的描述	5.000	CARDATOR OF A CARD TO SEE THE SECOND
HCM Average Control Dela	ıy		14.2	H	CM Level	of Service	e B
HCM Volume to Capacity ra	atio		0.67				
Actuated Cycle Length (s)			46.9	Sı	um of lost	time (s)	12.0
Intersection Capacity Utiliza	ation		39.8%			of Service	Α
Analysis Period (min)			15				
c Critical Lane Group							

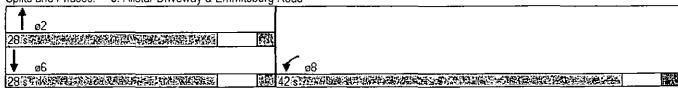
	€	4	†	/	\	↓	
Lane Group	W.WBL	為WBR	NBT:	NBR.	∯ SBL:	SBT:	Harristan (1827) A. Carlandan
Lane Configurations	Y		†	7		ન	
Volume (vph)	205	35	105	237	39	143	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	
Grade (%)	4%		1%			-1%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.987			0.850			
Flt Protected	0.957					0.985	
Satd. Flow (prot)	1700	0	1827	1553	0	1805	
Flt Permitted	0.957				_	0.845	
Satd. Flow (perm)	1700	0	1827	1553	0	1549	
Rìght Turn on Red	1100	Yes	,,,,,	Yes	J	1010	
Satd. Flow (RTOR)	1 1	100		354			
Link Speed (mph)	25		40	557		40	
Link Opeed (mpn) Link Distance (ft)	597		468			377	
Travel Time (s)	16.3		8.0			6.4	
, ,		0.60		0.07	0.55		
Peak Hour Factor	0.38	0.63	0.67	0.67	0.55	0.84	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	
Adj. Flow (vph)	539	56	157	354	71	170	
Shared Lane Traffic (%)	505	•		25.4			
Lane Group Flow (vph)	595	. 0	157	354	.0	241	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	11		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.07	1.07	1.05	1.05	1.04	1.04	
Turning Speed (mph)	15	9		9	15		
Number of Detectors	1		2	1	1	2	
Detector Template	Left		Thru	Right	Left	Thru	
Leading Detector (ft)	20		100	20	20	100	
Trailing Detector (ft)	0		0	0	0	Ó	
Detector 1 Position(ft)	0		0	0	0	0	
Detector 1 Size(ft)	20		6	20	20	6	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			6			6	
Detector 2 Type			CI+Ex			CI+Ex	
Detector 2 Channel						-	
Detector 2 Extend (s)			0.0			0.0	
Turn Type			0.0	Perm	Perm	0.0	
Protected Phases	8		2	. 01111	i Gilii	6	
Permitted Phases	J		_	2	6	J	
Detector Phase	8		2	2	6	6	
DOGOGOT HASE							

	•	•	↑	1	-	↓	
Lane Group	WE ENBLY	WBR	MNBT/	NBR	.€ SBL	SBT.	
Switch Phase							A Proposition of the Control of the
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0		22.0	22.0	22.0	22.0	
Total Split (s)	42.0	0.0	28.0	28.0	28.0	28.0	
Total Split (%)	60.0%	0.0%	40.0%	40.0%	40.0%	40.0%	
Maximum Green (s)	36.0		22.0	22.0	22.0	22.0	•
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	6.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Recall Mode	None		Min	Min	Min	Min	
Walk Time (s)	5.0		5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
v/c Ratio	0.77		0.31	0.52		0.56	
Control Delay	18.5		17.4	5.4		22.2	
Queue Delay	0.0		0.0	0.0		0.0	
Total Delay	18.5		17.4	5.4		22.2	
Queue Length 50th (ft)	116		32	0		53	
Queue Length 95th (ft)	78		67	10		135	
Internal Link Dist (ft)	517		388			297	
Turn Bay Length (ft)							
Base Capacity (vph)	1329		906	948		768	
Starvation Cap Reductn	0		0	0		0	
Spillback Cap Reductn	0		0	0		0	
Storage Cap Reductn	0		0	0		0	
Reduced v/c Ratio	0.45		0.17	0.37		0.31	
Intersection Summary		学运动			6 51000	全位全	
Area Type:	Other				-		
Cycle Length: 70							
Actuated Cycle Langth: 4	7.0						

Actuated Cycle Length: 47.9

Natural Cycle: 55

Control Type: Actuated-Uncoordinated



	•	•	1	<i>></i>	/	↓	
Movement -	WBL*	WBR.	. ∵ÑBT-≓	- ≸ÑBR à	∰ISBL'."	SBT	在手上的方式的公共企业基础的正确
Lane Configurations	¥		1→			र्स	
Volume (veh/h)	8	14	115	14	15	114	
Sign Control	Stop		Free			Free	
Grade	1%		-1%			1%	
Peak Hour Factor	0.58	0.60	0.83	0.75	0.54	0.85	
Hourly flow rate (vph)	14	23	139	19	28	134	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	338	148			157		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	200	4.40			457		
vCu, unblocked vol	338	148			157		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s) tF (s)	3.5	3.3			2.2		
p0 queue free %	98	97			98		
cM capacity (veh/h)	649	904			1435		
* * * * * * * * * * * * * * * * * * * *			'CD 4-	directely.		::::::::::::::::::::::::::::::::::::::	
				A STATE OF THE STA	193215.	11-7-10-63	2月1日本中では大学を表現を表現している。日本の一年の日本の一年の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の
Volume Total	37	157	162				
Volume Left	14 23	0	28				
Volume Right cSH	789	19 1700	0 1435				
Volume to Capacity	0.05	0.09	0.02				
Queue Length 95th (ft)	4	0.03	1				
Control Delay (s)	9.8	0.0	1.4				
Lane LOS	Α.	0.0	Α.				
Approach Delay (s)	9.8	0.0	1.4				
Approach LOS	A						•
Intersection Summary						die de la company	
Average Delay			1.7				
Intersection Capacity Utiliza	tion		27.1%	IC	U Level o	f Service	Α
Analysis Period (min)			15				

Overall Los = 1.4 sec/vel = Los A

	✓	*	†	/	-	↓	
Movement	÷₩BL	WBR-	.≾NBT.∵	NBR	SSBL®	₹ SBT	
Lane Configurations	NA.		1→			स	
Volume (veh/h)	8	14	117	14	15	116	
Sign Control	Stop		Free			Free	
Grade	1%		-1%			1%	
Peak Hour Factor	0.58	0.60	0.83	0.75	0.54	0.85	
Hourly flow rate (vph)	14	23	141	19	28	136	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s) Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)			110110			TTOTIC	
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	342	150			160		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	342	150			160		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	0.5						
tF (s)	3.5	3.3			2.2		
p0 queue free %	98 645	97			98		
cM capacity (veh/h)	645	901			1432		
Direction; Lane # 1			SB/135	主要(6)			
Volume Total	37	160	164				
Volume Left	14	0	28				
Volume Right	23	19	0				
cSH Volume to Capacity	785 0.05	1700 0.09	1432 0.02				
Queue Length 95th (ft)	4	0.03	0.02				
Control Delay (s)	9.8	0.0	1.4				
Lane LOS	Α	0.0	A				
Approach Delay (s)	9.8	0.0	1.4				
Approach LOS	A						
Intersection Summary	a ^m releading	erje e <u>j</u>	المادة الجاوي المادة الماوية			新 主题:	
Average Delay			1.7				
Intersection Capacity Utilizat	tion		27.3%	IC	U Level o	Service	А
Analysis Period (min)			15				

Overell Los = 1.4 sec/vel = Los A

	•	•	†	<i>></i>	-	↓	
Movement 2000	≟WBL ∵	- €.WBR'	S NBT C	INBR	€ SBL¥	SBT	
Lane Configurations Volume (veh/h) Sign Control	10 Stop	14	132 Free	16	15	4 133 Free	
Grade Peak Hour Factor Hourly flow rate (vph) Pedestrians Lane Width (ft)	1% 0.58 17	0.60 23	-1% 0.83 159	0.75 21	0.54 28	1% 0.85 156	
Walking Speed (ft/s) Percent Blockage Right turn flare (veh) Median type			None			None	
Median storage veh) Upstream signal (ft) pX, platoon unblocked vC, conflicting volume	382	170			180		
vC1, stage 1 conf vol vC2, stage 2 conf vol							
vCu, unblocked vol tC, single (s) tC, 2 stage (s)	382 6.4	170 6.2			180 4.1		
tF (s) p0 queue free % cM capacity (veh/h)	3.5 97 612	3.3 97 879	,		2.2 98 1407		
	WB 1	·NB 1	SB,1 ·			• ************************************	
Volume Total Volume Left	41 17	180	184 28		. 1-	,	Tables - Tab
Volume Right cSH	23 742	21 1700	0 1407				
Volume to Capacity Queue Length 95th (ft)	0.05	0.11	0.02				•
Control Delay (s) Lane LOS Approach Delay (s)	10.1 B 10.1	0.0	1.3 A 1.3				
Approach LOS Intersection Summary	B ادارها	aliz Talira i		Nyakas	eriation.		
Average Delay Intersection Capacity Utilization Analysis Period (min)	<u>•</u> ,12 •#	<u> </u>	1.6 29.1% 15	<u>۱۲ ده دیم</u> ند ۱۵	U Level o	Service	A

Overall Los: 1.4 sec/vel = Los A

	√ .	•	†	/	>	Ţ		
Movement	WBL	WBR	WNBT	NBR.	SBL	SBT		
Lane Configurations	J.A.		7>			स		
Volume (veh/h)	8	15	122	15	16	121		
Sign Control	Stop		Free			Free		
Grade	1%		-1%			1%		
Peak Hour Factor	0.58	0.60	0.83	0.75	0.54	0.85		
Hourly flow rate (vph)	14	25	147	20	- 30	142		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage			•					
Right turn flare (veh)								
Median type			None			None		
Median storage veh)								
Upstream signal (ft)								
pX, platoon unblocked								
vC, conflicting volume	359	157			167			
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	359	157			167			
tC, single (s)	6.4	6.2			4.1			
tC, 2 stage (s)								
tF (s)	3.5	3.3			2.2			
p0 queue free %	98	97			98			
cM capacity (veh/h)	630	894			1423			
		≨ N8.1⊴			300000	3.403.50 A		P
Volume Total	39	167	172					
Volume Left	14	0	30					
Volume Right	25	20	0					
cSH	778	1700	1423					
Volume to Capacity	0.05	0.10	0.02					
Queue Length 95th (ft)	4	0	2					
Control Delay (s)	9.9	0.0	1.4					
Lane LOS	A	0.0	A					
Approach Delay (s)	9.9	0.0	1.4					
Approach LOS	Α							
Intersection Summary		t Wisin					企业对于原则发展 。	漢國
Average Delay			1.7					
Intersection Capacity Utilization			27.9%	IC	U Level o	f Service	A	
Analysis Period (min)			15					

Overall LOS = 1.4 sec/rec = LOS A

C2 stage 2 conf vol Cu, unblocked vol 398 176 188 C single (s) 6.4 6.2 4.1 C, 2 stage (s) (s) 3.5 3.3 2.2 O queue free % 97 97 98 M capacity (veh/h) 598 872 1399 irrection tane # ** **WB.1** **NB.1** **SB.1** Olume Total 42 188 192 Olume Left 17 0 30 Olume Right 25 23 0 SH 735 1700 1399 Olume Right 25 23 0 SH 735 1700 1399 Olume Length 95th (ft) 5 0 2 Ontrol Delay (s) 10.2 0.0 1.3 ane LOS B A pproach Delay (s) 10.2 0.0 1.3 pproach LOS B lersection Summary verage Delay lersection Capacity Utilization 29.7% ICU Level of Service A		•	*	†	/	>	ļ					
Colume C			WBR	NBT	NBR &	S SBL	KKSBT:					
Sign Control Stop Free	Lane Configurations	•			•							
1%			15		17	16						•
reak Hour Factor 0.58 0.60 0.83 0.75 0.54 0.85 logicity flow rate (vph) 17 25 165 23 30 162 logicity flow rate (vph) 17 25 165 23 30 162 logicity flow rate (vph) logicity	Sign Control											
County, flow rate (vph)								•		•	•	
redestrians and Width (ft) Valking Speed (ft/s) ercent Blockage tight turn flare (veh) fedian tyree. Indian tyree. Indian tyree. None Rodin tyree. Rodin												
ane Width (ft) Valking Speed (ft/s) Valking Valk		17	20	100	23	30.	102					*
Valking Speed (ft/s) erceint Blockage tight furn fare (veh) fedian type fedian storage veh) pistream storage veh pistream storage veh) pistream storage veh) pistream storage veh) pistream storage veh) pistream storage veh pistream storage pistream												1, 19,3
ericent Blockage ight turn flare (veh) lectian type. lectian storage veh) lipstream signal (ft) X, platoon unblocked Conflicting volume C1, stage 1 conf vol C2, stage 2 conf vol Cu, unblocked vol Single (s) C3, 51, 51, 51, 51, 51, 51, 51, 51, 51, 51												· · · · · · · · · · · · · · · · · · ·
Interest												
Mone None												
Interest	Median type	_		None	- , 5 4	e salaha	&None -		4 ,			-1 ₋₁ -1 ₋₁ -1
	Median storage veh)	:			di anno			i sumusia	••	•		
X, platoon unblocked C, conflicting volume C1, stage 1 conf vol C2, stage 2 conf vol C3, stage 2 conf vol C4, unblocked vol C3, stage (s) C4, c2, c3, c3, c3, c3, c3, c3, c3, c3, c3, c3	Upstream signal (ft)			•	ر. المراجع المراجع المراج				÷.		٠	. 4.
Conflicting volume C1, stage 1 conf vol C2, stage 2 conf vol C3, stage 1 conf vol C3, stage 1 conf vol C3, stage 1 conf vol C3, stage 2 conf vol C4, unblocked vol C5, 2 stage (s) C6, 0 conf vol C5, 2 stage (s) C6, 0 conf vol C6, 0 conf vol C7, 2 stage (s) C8, 0 conf vol C9, 0 conf vol C9			•-	•	• 77 3			•	~ <u>~</u>			•
C1, stage 1 conf vol C2, stage 2 conf vol Cu, unblocked vol 398 176 188 C3 single (s) 6.4 6.2 4.1 C2 stage (s) (s) 3.5 3.3 2.2 0 queue free % 97 97 98 M capacity (veh/n) 598 872 1399 Irrection Liane # WB1 NB1 SB1 Olume Total 42 188 192 Olume Right 25 23 0 SH 735 1700 1399 Olume (Capacity 10, 10, 10, 10, 10, 10, 10, 10, 10, 10,		398	176	ا ۾ اور س اندان	THE STATE OF	.≅-188 [*]	1.5		(·	$\mathbb{E}[X] = X^{(k)}$	15	To the last
Cu, unblocked vol 398 176 188 C) single (s) 6.4 6.2 4.1 C) 2 stage (s) (s) 3.5 3.3 2.2 0 queue free % 97 97 98 M capacity (veh/h) 598 872 1399 Iffection trans # WB1+ NB1+ SB1 Olume Total 42 188 192 Olume Left 17 0 30 Olume Right 25 23 0 SH 735 1700 1399 Olume to Capacity 006 0.11 0.02 ueue Length 95th (ft) 5 0 2 ontrol Delay (s) 10.2 0.0 1.3 ane LOS B A procach Delay (s) 10.2 0.0 1.3 pproach LOS B Itersection Summary verage Delay Itersection Capacity Utilization 29.7% ICU Level of Service: A	/C1, stage 1 conf vol			,						-	,	,
Single (s) 6.4 6.2 4.1 C. 2 stage (s) 3.5 3.3 2.2 0 queue free % 97 97 98 M capacity (veh/h) 598 872 1399 irrection trane # WB i NB i SB i SB i SB i SB i SB i SB i S	vC2 stage 2 conf vol								•			•
2. 2 stage (s) (s) 3.5 3.3 2.2 0 queue free % 97 97 98 M capacity (veh/h) 598 872 1399 irection trane # WB.1 NB.1 SB.1 olume Total 42 188 192 olume Right 25 23 0 SH 735 1700 1399 olume to Capacity Queue Length 95th (ft) 5 0 2 ontrol Detay (s) 10.2 0.0 1.3 ane LOS B A privach Detay (s) 10.2 0.0 1.3 proach LOS B lersection (Summary verage Delay 1.6 lersection Capacity Utilization 2.9.7% ICU Level of Service A	vCu, unblocked vol	398				188						
(s) 3.5 3.3 2.2 0 queue free % 97 97 98 M capacity (veh/h) 598 872 1399	C, single (s)	. 6.4	6.2			4.1		•				, ,
0 queue free % 97 97 98 MCapacity (veh/h) 598 872 1399 irrection Lane # WB11 NB1 SB1 olume Total 42 188 192 olume Right 25 23 0 olume to Capacity (veh/h) 5 0 2 ontrol Delay (s) 10.2 0.0 1.3 pproach Delay (s) 10.2 0.0 1.3 pproach LOS B dersection Summary 16 verage Delay 1.6 lersection Capacity Utilization 1976 ICU Level of Service A	C, 2 stage (s)											
Micapacity (veh/h) 598 872 1399 direction Lane # WB1 NB1 SB1 NB1 SB1 olume Total 42 188 192 olume Left 17 0 30 olume Right 25 23 0 SH 735 1700 1399 olume to Capacity 0.06 0.11 0.02 ueue Length 95th (ft) 5 0 2 ontrol Delay (s) 10.2 0.0 1.3 ane LOS B A pproach LOS B A dersection Summary 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A	F.(s)				•						• ;	
SB												
olume Total 42 188 192 olume Left 17 0 30 olume Right 25 23 0 SH 735 1700 1399 olume to Capacity 0.06 0.11 0.02 ueue Length 95th (ft) 5 0 2 ontrol/Delay (s) 10.2 0.0 1.3 ane LOS B A pproach Delay (s) 10.2 0.0 4.3 pproach LOS B dersection Summary 1.6 tersection Capacity Utilization 29.7% ICU Level of Service: A	cM capacity (veh/h)	. 598	872		•.•	1399	•		•			and a feet of
olume Left 17 0 30 olume Right 25 23 .10 SH 735 1700 1399 olume to Capacity 0.06 0.11 0.02 ueue Length 95th (ft) 5 0 2 ontroll Delay (s) 10.2 0.0 1.3 ane LOS B A pproach Delay (s) 10.2 0.0 1.3 pproach LOS B dersection Summary 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A	Direction/Lane#	WB1	FR. 1 - 1 - 527.	與SB/I支	Nation.	4×0-2	海外海			国基 生产		16. AS
olume Right 25 23 0 SH 735 1700 1399 olume (ol Capacity) 0.06 0.01 0.02 ueue Length 95th (ft) 5 0 2 ohirol Delay (s) 10.2 0.0 1.3 ane LOS B A pproach Delay (s) 10.2 0.0 1.3 pproach LOS B dersection Summary 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A	Volume Total		188				,					
SH 735 1700 1399 Olume to Capacity 0.06 0.11 0.02 ueue Length 95th (ft) 5 0 2 Ontrol Delay (s) 10.2 0.0 1.13 ane LOS B A pproach Delay (s) 10.2 0.0 1.3 pproach LOS B dersection Summary 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A	/olume Left											
olume to Capacity 0.06 0.11 0.02 nueue Length 95th (ft) 5 0 2 ontrol Delay (s) 10.2 0.0 1.3 ane LOS B A pproach Delay (s) 10.2 0.0 1.3 pproach LOS B dersection Summary 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A								•	•		-	
ueue Length 95th (ft) 5 0 2 ontrol Delay (s) 10.2 0.0 1.13 ane LOS B A pproach Delay (s) 10.2 0.0 1.3 pproach LOS B dersection/Summary verage Delay 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A	SH				. =					• . •		
ontrol/Delay (s) 10.2 0.0 1.3 ane LOS B A pproach Delay (s) 10.2 0.0 1.3 pproach LOS B dersection Summary verage Delay 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A				0.02	是言列的	36. ·		** 2. h	. i.i., w	The Page	in of the	No. of the life
ane LOS B A pproach Delay (s) 10.2 0.0 1.3 pproach LOS B Itersection Summary verage Delay 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A	Queue Length 95th (ft)			2	telejna i s	Y4	o de la composición dela composición de la composición dela composición de la compos		~ .		*** 21.4	No the second
pproach Delay (s) 10.2 0.0 1.3 pproach LOS B tersection Summary 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A			(0.0),	r : 1:3 :	。			Talling Time	Ţ.,		- 4	
pproach LOS B Itersection Summary verage Delay 1.6 Itersection Capacity Utilization 29.7% ICU Level of Service A	Lane LOS	_	0:0	A	•.					-		
verage Delay 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A	Approach Delay (s)		0.0	1.3			÷.		•			
verage Delay 1.6 tersection Capacity Utilization 29.7% ICU Level of Service A	• •											
tersection Capacity Utilization 29.7% ICU Level of Service A												2000
	Average Delay											
nalysis Period (min) 15		tion			IC	U Level d	f Service	r:		Α		
	Analysis Period (min)			15								

Overall Los = 1.4 sec/vel = Los A

	1	•	†	<i>></i>	\	↓			
Movement	«WBL»	. WBR	NBT	A NBR	SBL	SBT			
Lane Configurations	¥#		4			स			
Volume (veh/h)	9	6	122	17	12	9 1			
Sign Control	Stop		Free			Free			
Grade	1%		-1%			1%			
Peak Hour Factor	0.50	0.63	0.86	0.42	0.50	0.86			
Hourly flow rate (vph)	18	10	142	40	24	106			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type			None			None			
Median storage veh)									
Upstream signal (ft)									
pX, platoon unblocked									
vC, conflicting volume	316	162			182				
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	316	162			182				
tC, single (s)	6.4	6.2			4.1				
tC, 2 stage (s)									
tF (s)	3.5	3.3			- 2.2				
p0 queue free %	97	99			98				
cM capacity (veh/h)	670	888			1405				
Direction/Lane.# 4.504.4.	WB·1美		SB 1			92144		300年100	
Volume Total	28	182	130						
Volume Left	18	0	24						
Volume Right	10	40	0						
cSH	732	1700	1405						
Volume to Capacity	0.04	0.11	0.02						
Queue Length 95th (ft)	3	0	1						
Control Delay (s)	10.1	0.0	1.5						
Lane LOS	В		Α						
Approach Delay (s)	10.1	0.0	1.5						
Approach LOS	В								
Intersection Summary	200 M	क्ट्रीहर्ति हार्डि		W. W.	E LOS	编则包护 ?	经工作	W (科學)	张满思 莉
Average Delay		-	1.4						
Intersection Capacity Utilization	1		24.9%	IC	:U Level d	of Service		Α	
Analysis Period (min)			15						

Overall LOS = 1.2 sec/vel = LOS A

	•	•	Ť	/	-	ţ	
Movement等程等是完整	XWBLS	Z WBR	NBT	NBR	SBLZ	SBT	
Lane Configurations	77		1→			र्स	
Volume (veh/h)	9	6	124	17	12	93	
Sign Control	Stop		Free			Free	
Grade	1%		-1%			1%	
Peak Hour Factor	0.50	0.63	0.86	0.42	0.50	0.86	
Hourly flow rate (vph)	18	10	144	40	24	108	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)			Mana			None	
Median type Median storage veh)			None			None	
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	321	164			185		
vC1, stage 1 conf vol	U L.	, , ,					
vC2, stage 2 conf vol							
vCu, unblocked vol	321	164			185		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	97	99			98		
cM capacity (veh/h)	665	885			1402		
Direction Lane # ***				理學型			
Volume Total	28	185	132				
Volume Left	18	0	24				
Volume Right	10	40	0				
cSH Values to Canadity	728	1700	1402				
Volume to Capacity	0.04	0.11	0.02				
Queue Length 95th (ft)	3 10.1	0 0.0	1 1.5				
Control Delay (s) Lane LOS	10.1 B	0.0	7.3 A				
Approach Delay (s)	10.1	0.0	1.5				
Approach LOS	В	0.0	1.0				
					ST 177		
Intersection Summary 10	CONTRACTOR OF THE PARTY OF THE	Company of	1.4	HEART ST	EDATE TO	PARTICIPATE OF THE PARTIES OF THE PA	日子的社会工作。在1月1日,以中国的大学的企业的工作。 1月1日 - 1月1日 - 1
Average Delay Intersection Capacity Utilization			1.4 25.0%	10	م امیرم ا ا	of Service	Α.
Analysis Period (min)			25.0% 15	. 10	O LEVELO	i Service	A .
Arialysis neriod (min)			13				

Overall LOS = 1.2 sec/vel. LOSA

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Movement	WBL :	WBR-	∦ NBT ≥	NBR 3	(SBL)	W SBT语	
Lane Configurations	**	<u>-</u>	F			न	
Volume (veh/h)	11	6	142	19	12	112	
Sign Control	Stop		Free			Free	
Grade	1%		-1%			1%	
Peak Hour Factor	0.50	0.63	0.86	0.42	0.50	0.86	
Hourly flow rate (vph)	22	10	165	45	24	130	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)			Mana			NI	
Median type			None			None	
Median storage veh)							
Upstream signal (ft) pX, platoon unblocked							
vC, conflicting volume	366	188			210		
vC1, stage 1 conf vol	300	100			210		
vC2, stage 2 conf vol							
vCu, unblocked vol	366	188			210		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	96	99			98		
cM capacity (veh/h)	626	859			1372		
Direction Lane # 1844	WB1	NB 1	SBITS	不管护			
Volume Total	32	210	154				
Volume Left	22	0	24				
Volume Right	10	45	0				
cSH	682	1700	1372				
Volume to Capacity	0.05	0.12	0.02				
Queue Length 95th (ft)	4	0	1				
Control Delay (s)	10.5	0.0	1.3				
Lane LOS	8		Α				
Approach Delay (s)	10.5	0.0	1.3				
Approach LOS	8						
	<u></u>			्रीक भागा है। इस	era al es	K. Skoto	表 的 自己的主义。
Average Delay			1.4	.~			
Intersection Capacity Utilization	ו		25.9%	IC	U Level o	r Service	А
Analysis Period (min)			15				

Overall Los = 1.1 sec/rel = Los A

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Movement	- WBL 3	WBR.	終NBT 产	NBR S	SBL S	SESBT 156				
Lane Configurations	***		4			र्स				
Volume (veh/h)	10	6	129	18	13	96				
Sign Control	Stop		Free			Free				
Grade	1%		-1%			1%				
Peak Hour Factor	0.50	0.63	0.86	0.42	0.50	0.86				
Hourly flow rate (vph)	20	10	150	43	26	112				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)			Naa-			NI				
Median type			None			None				
Median storage veh)										
Upstream signal (ft) pX, platoon unblocked										
vC, conflicting volume	335	171			193					
vC1, stage 1 conf vol	330	17.1			133					
vC2, stage 2 conf vol										
vCu, unblocked voi	335	171			193					
tC, single (s)	6.4	6.2			4.1					
tC, 2 stage (s)										
tF (s)	3.5	3.3			2.2					
p0 queue free %	97	99			98					
cM capacity (veh/h)	652	877			1393					
	WB 1	BNB 15	SB 1 %	然 艾萸					EVENY	
Volume Total	30	193	138							
Volume Left	20	0	26							
Volume Right	10	43	0							
cSH	711	1700	1393							
Volume to Capacity	0.04	0.11	0.02							
Queue Length 95th (ft)	3 40.3	0	1							
Control Delay (s)	10.3 B	0.0	1.6 A							
Lane LOS . Approach Delay (s)	10.3	0.0	1.6							
Approach LOS	10.3 B	0.0	1.0							
• •		ri∀a 350ai	an de la company	2014 N. S.	CONTRACTOR	र्गा साम्बन्धकार स्थापनाः स्थापनाः	ran≥estanom			Section of the sectio
Intersection Summary	A Port	"说的说。	endre des	ELIMINA	"哈斯斯 "	门的巨大的		HE PER LA CO	E-23-Linesk	2000年
Average Delay	_		1.4	10	- امنما ۱۱	f Comico		٨		
Intersection Capacity Utilization	n		26.0%	10	U Level o	i pelvice		Α		
Analysis Period (min)			15							

Overall Los = 1.2 sexul = Los A

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Movement & San Control	WBL	, WBR	NBT	NBR	A SBEN	A SBT		是的证据			
Lane Configurations	#Y#					<u>स</u>				•	
Volume (veh/h)	12	6	147 `	20	13	115					
Sign Control	Stop		Free			Free					
Grade	1%		-1%			1%					
Peak Hour Factor	0.50	0.63	0.86	0.42	0.50	0.86					
Hourly flow rate (vph)	24	10	171	48	26	134					
Pedestrians											
Lane Width (ft)											
Walking Speed (fVs)											
Percent Blockage											
Right turn flare (veh)					,						
Median type			None			None					
Median storage veh)											
Upstream signal (ft)											
pX, platoon unblocked											
vC, conflicting volume	380	195			219						
vC1, stage 1 conf vol											
vC2, stage 2 conf vol	000	105			0.40						
vCu, unblocked vol	380	195			219						
tC, single (s)	6.4	6.2			4.1						
tC, 2 stage (s)	2.5	2.2			2.2						
tF(s)	3.5	3.3			2.2 98						
p0 queue free %	96 614	99 852									
cM capacity (veh/h)	014	002			1363						
		1, 4,	がSB:1年	位置程度)							
Volume Total	34	219	160								
Volume Left	24	0	26								
Volume Right	10	48	0								
cSH	667	1700	1363								
Volume to Capacity	0.05	0.13	0.02								
Queue Length 95th (ft)	4	0	1								
Control Delay (s)	10.7	0.0	1.4								
Lane LOS	B	0.0	Α								
Approach Delay (s)	10.7	0.0	1.4								
Approach LOS	В										
Intersection Summary				多相談			LOS DINGE				是國
Average Delay			1.4	. =							
Intersection Capacity Utilization	1		26.9%	IC	U Level o	t Service		F	\		
Analysis Period (min)			15								

Overall LOS = 1.2 Jec/rel = LOS A

	•	•	†	/	-	1	
Movement	WBL	WBR:	ENBT	NBR	SBL W	A SBT	
Lane Configurations	N/A		<u></u>			4	
Volume (veh/h)	23	7	110	15	6	117	
Sign Control	Stop		Free			Free	
Grade	1%		-1%			1%	
Peak Hour Factor	0.50	0.38	0.77	0.65	0.63	0.82	
Hourly flow rate (vph)	46	18	143	23	10	143	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked	316	154			166		
vC, conflicting volume vC1, stage 1 conf vol	310	134			100		
vC1, stage 1 conf vol							
vCu, unblocked vol	316	154			166		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	0.4	0.2			7,1		
tF (s)	3.5	3.3			2.2		
p0 queue free %	93	98			99		
cM capacity (veh/h)	676	897			1424		
Direction Lane # 4000	WB:1:	SINB 18	SB1要	學出			
Volume Total	64	166	152				
Volume Left	46	0	10				
Volume Right	18	23	0				
cSH	728	1700	1424				
Volume to Capacity	0.09	0.10	0.01				
Queue Length 95th (ft)	7	0	1				
Control Delay (s)	10.4	0.0	0.5				
Lane LOS	В		A				
Approach Delay (s)	10.4	0.0	0.5				
Approach LOS	В						
Intersection Summary	MATES.						
Average Delay			2.0	1.00			٨
Intersection Capacity Utilization	!		21.0%	Ю	U Level o	Service	A
Analysis Period (min)			15				

Overall LOS = 1.3 sec/et = LOS A

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Movement	·WBL*	".WBR"	NBT \$	₹NBR	SBL	SSBT ST	
Lane Configurations	¥		7>			4	
Volume (veh/h)	23	7	112	15	6	119	
Sign Control	Stop		Free			Free	
Grade	1%		-1%			1%	
Peak Hour Factor	0.50	0.38	0.77	0.65	0.63	0.82	•
Hourly flow rate (vph) Pedestrians	46	18	145	23	10	145	
Lane Width (ft)							
Walking Speed (ft/s)							·
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)			170710			110110	
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	321	157			169		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	321	157			169		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	2.5	2.2			0.0		
tF (s) p0 queue free %	3.5 93	3.3 98			2.2 99		•
cM capacity (veh/h)	672	96 894			1421		
			m##****/ WEA		44 ==================================	Committee Committee	
	SWB 12		SB 1	經過		Pierra Pri	
Volume Total	64 46	169	155				
Volume Left Volume Right	18	0 23	10 0				
cSH	723	1700	1421				
Volume to Capacity	0.09	0.10	0.01				
Queue Length 95th (ft)	7	0.10	1				
Control Delay (s)	10.5	0.0	0.5				
Lane LOS	В		Α				
Approach Delay (s)	10.5	0.0	0.5				
Approach LOS	В						
Intersection Summary 38		2000年			KK BIR		这种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种
Average Delay			1.9				
Intersection Capacity Utilization	n		21.2%	IC	U Level o	f Service	Α
Analysis Period (min)			15				

Overall Los. 1.3 sec/vel = Los A

	*	4	↑	/	\	↓	
Movement	WBL	EWBR	WANBT!	S NBR	₩ SBL	翼 SBT 翼	
Lane Configurations	**		₽			4	
Volume (veh/h)	26	7	131	17	6	142	
Sign Control	Stop		Free			Free	
Grade	1%		-1%			1%	
Peak Hour Factor	0.50	0.38	0.77	0.65	0.63	0.82	
Hourly flow rate (vph)	52	18	170	26	10	173	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked	075	400					
vC, conflicting volume	375	183			196		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	275	400			400		
vCu, unblocked vol	375	183			196		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	2 5	2.2			2.0		
tF (s)	3.5	3.3			2.2		
p0 queue free %	92 625	98			99		
cM capacity (veh/h)		864			1389		
Direction: Lane #23.2.					"是"	N SEYE	
Volume Total	70	196	183				
Volume Left	52	0	10				
Volume Right	18	26	0				
cSH	674	1700	1389				
Volume to Capacity	0.10	0.12	0.01				
Queue Length 95th (ft)	9	0	1				
Control Delay (s)	11.0	0.0	0.5				
Lane LOS	B 11.0	Λ.0	A				
Approach LOS	11.0 B	0.0	0.5				
Approach LOS	D						
Intersection Summary					规程则	科學	是这些是是一个人,但是一个人,
Average Delay			1.9				
Intersection Capacity Utilization			22.3%	IC	U Level o	f Service	Α
Analysis Period (min)			15				

Overall LOS = 1.3 reflect = LOS A

	•	*	†	/	-	ţ	
Movement	₹WBL	WBR	建NBT 的	NBR	±#SBL*	ASBTA.	Karanyan da kamanan da
Lane Configurations	¥¥.		1			स	
Volume (veh/h)	24	7	117	16	6	124	
Sign Control	Stop		Free			Free	
Grade	1%		-1%			1%	
Peak Hour Factor	0.50	0.38	0.77	0.65	0.63	0.82	
Hourly flow rate (vph)	48	18	152	25	10	151	
Pedestrians							•
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)					•		•
pX, platoon unblocked							
vC, conflicting volume	335	164			177		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	335	164			177		
tC, single (s)	6.4	6.2			4.1		·
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	93	98			99		
cM capacity (veh/h)	660	886			1412		
Direction; Lane # 4 10 40 7			SB1		理性的		
Volume Total	66	177	161				
Volume Left	48	0	10				
Volume Right	18	25	0				
cSH	710	1700	1412				
Volume to Capacity	0.09	0.10	0.01				
Queue Length 95th (ft)	8	0	1				
Control Delay (s)	10.6	0.0	0.5				
Lane LOS	B	0.0	Α				
Approach Delay (s)	10.6 B	0.0	0.5				
Approach LOS	-						
Intersection Summary		数据以					
Average Delay			1.9		M.1.4		•
Intersection Capacity Utilization	ו		21.4%	IC	:U Level o	i Service	Α
Analysis Period (min)			15				

Overall LOS = 1.3 sec/vel = LOS A

	•	4	1	/	\	ļ	
Movement	WBL	WBR.	NBT	ANBR	SBL	SBT.	
Lane Configurations	**		<u></u>			स	
Volume (veh/h)	27	7	136	18	6	147	
Sign Control	Stop		Free			Free	
Grade	1%		-1%			1%	
Peak Hour Factor	0.50	0.38	0.77	0.65	0.63	0.82	
Hourly flow rate (vph)	54	18	177	28	10	179	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None			None	
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	389	190			204		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	222						
vCu, unblocked vol	389	190			204		
tC, single (s)	6.4	6.2			4.1		
tC, 2 stage (s)	2.5	2.2			0.0		
tF (s)	3.5	3.3			2.2		
p0 queue free %	91	98			99		
cM capacity (veh/h)	614	856			1379		
			深SB / 接				
Volume Total	72	204	189				
Volume Left	54	0	10				
Volume Right	18	28	0				
cSH	662	1700	1379				
Volume to Capacity	0.11	0.12	0.01				
Queue Length 95th (ft)	9	0	1				
Control Delay (s)	11.1	0.0	0.4				
Lane LOS	В	0.0	Α				
Approach Delay (s)	11.1	0.0	0.4				
Approach LOS	В						
Intersection Summary				TAK	68.73		的表面的語言。
Average Delay			1.9				
Intersection Capacity Utilization			22.6%	IC	U Level o	f Service	А
Analysis Period (min)			15				

Overell LOS = 1.3 sec/vel = LOSA

	۶	→	•	•	←	*	4	†	/	\	ļ	4
Movement	«), ĭ₄̈́EBL∜	}.€EBT∢:	EBR	WBL 5	WBT :	:WBR	NBL*	選NBT學	NBR	i≩ SBĽ	S SBT	SBR
Lane Configurations					4			4			1>	
Volume (veh/h)	0	0	0	37	0	82	0	200	0	0	62	64
Sign Contral		Stop			Stop			Free			Free	
Grade		0%			1%			-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.77	0.25	0.82	0.92	0.81	0.92	0.92	0.86	0.80
Hourly flow rate (vph)	0	0	0	48	0	100	0	247	0	0	72	80
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s) Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)								110110			710110	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	359	359	112	359	399	247	152			247		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	359	359	112	359	399	247	152			247		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	2.5	4.0	2.2	2.0	4.0	2.2	2.0			2.2		
tF (s)	3.5 100	4.0 100	3.3 100	3.6 92	4.0 100	3.3 87	2.2 100			2.2 100		
p0 queue free % cM capacity (veh/h)	524	571	946	92 5 75	542	787	1441			1331		
					٠,	701	المَّارِّةِ الْمُرَّادِةِ الْمُرَّادِةِ الْمُرَّادِةِ الْمُرَادِةِ الْمُرَادِةِ الْمُرَادِةِ الْمُرَادِةِ الْم المنظا	٠	and Start	. १ <u>५७</u> ० । . १ ९१३: १९११	0.3076455	en en e
Direction, Lane # Volume Total	WB 1	NB 1 247	SB 1 152				st year only		<u>7 2759</u>		, research	思数技化
Volume Left	148 48	247	0								•	
Volume Right	100	0	80									
cSH	703	1700	1700									
Volume to Capacity	0.21	0.15	0.09									
Queue Length 95th (ft)	20	0	0									
Control Delay (s)	11.5	0.0	0.0									
Lane LOS	В											
Approach Delay (s)	11.5	0.0	0.0									
Approach LOS	В											
Intersection Summary		Burn.	30-15			1.28 3.4 5. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1						
Average Delay			3.1									
Intersection Capacity Utilizat	ion		24.3%	ICI	J Level o	f Service	;		Α			
Analysis Period (min)			15									

Overall LOS = 3.1 se Keh = Los A

	٠	→	7	€	4	•	4	1	<i>></i>	\	1	4
Movement	EBL	EBT	EBR .	WBL	⊶ WBT:*	WBR &	SINBL®	WNBT	NBR	₩SBL	編(SBT)	SBR
Lane Configurations					4			†			^	
Volume (veh/h)	0	0	0	38	0	83	0	203	0	0	63	65
Sign Control		Stop			Stop			Free			Free	
Grade		0%			1%			-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.77	0.25	0.82	0.92	0.81	0.92	0.92	0.86	0.80
Hourly flow rate (vph)	0	0	0	49	0	101	0	251	0	0	73	81
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s) Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)								140110			HONC	
Upstream signal (ft)												
pX, platooп unblocked												
vC, conflicting volume	364	364	114	364	405	251	155			251		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	364	364	114	364	405	251	155			251		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	0.5		• •		4.0					0.0		
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	91 570	100	87	100			100		
cM capacity (veh/h)	518	567	944	570	538	783	1438			1327	e ner Brooks	A .40 TV 10 Ton
Direction, Lane #	5WB,11	. NB it	্ইSB 1	ولي الحق وما العمالية الأساء الما		, p. 1		Kee		100	43.5	344市
Volume Total	151	251	155									
Volume Left	49	0	0									
Volume Right	101	1700	81									
cSH Volume to Capacity	698 0.22	1700 0.15	1700 0 .09									
Queue Length 95th (ft)	20	0.15	0.09									
Control Delay (s)	11.6	0.0	0.0									
Lane LOS	11.0 B	0.0	0.0									
Approach Delay (s)	11.6	0.0	0.0									
Approach LOS	В	0.0	0.0									
Intersection Summary				经 专家			學系統					
Average Delay			3.1									
Intersection Capacity Utiliza	ition		24.6%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall LOS = 3.1 sec/eL = LOS A

	•	-> 1	•	•	←	•	4	†	1	>	ţ	4
	EBL	EBT.	EBR	WBL		WBR	UNBL		NBR	道SBL		SBR
Lane Configurations	0	^	^	20	- ♣	454	^	7		•	}	440
Volume (veh/h)	0	0	0	38	0	154	0	300	0	0	130	149
Sign Control Grade		Stop			Stop			Free			Free	
Peak Hour Factor	0.92	0% 0.92	0.92	0.77	1%	0.00	0.03	-2%	0.00	0.00	2%	0.00
Hourly flow rate (vph)	0.92	0.92	0.92	0.77 49	0.25	0.82 188	0.92	0.81 370	0.92	0.92	0.86 151	0.80
Pedestrians	U	U	U	49	0	100	0	3/0	0	0	131	186
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)								NOTIC			None	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	615	615	244	615	708	370	337			370		
vC1, stage 1 conf vol	010	0,0	<u> </u>	010	700	0,0	007			0,0		
vC2, stage 2 conf vol												
vCu, unblocked vol	615	615	244	615	708	370	337			370		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	• • • • • • • • • • • • • • • • • • • •	0.0	0.2		0.0	0.2	1			•••		
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	87	100	72	100			100		
cM capacity (veh/h)	293	409	799	387	362	671	1233			1199		
Direction Lane #						recording the contract						
Volume Total	237	370	337	SECT CHARE	Section of the Sectio	Learning and the		** ***********************************	arat wile <u>lite</u>	Charles to a control of	77 %-52 Z-4 (* *	errections of
Volume Left	49	0	0									
Volume Right	188	ō	186									
cSH	582	1700	1700									
Volume to Capacity	0.41	0.22	0.20									
Queue Length 95th (ft)	49	0	0									
Control Delay (s)	15.4	0.0	0.0									
Lane LOS	C											
Approach Delay (s)	15.4	0.0	0.0									
Approach LOS	С											
intersection Summary												THE ST
Average Delay	A STATE OF THE STATE OF		3.9	- Ar at HE WAY					.,			
Intersection Capacity Utilizat	tion		34.2%	ICI	J Level o	f Service			Α			
Analysis Period (min)			15	,,,		-						

Overall LOS = 3.8 sec/rel . LOS A

	۶	-	•	•	←	•	4	†	1	>	↓	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL :	₽NBT.	NBR	SBL	ं¦SBT∂	第SBR
Lane Configurations	•				44			↑			1>	
Volume (veh/h)	0	_ 0	0	39	0	87	0	212	0	0	66	68
Sign Control	•	Stop			Stop			Free			Free	
Grade	0.00	0%	2.00	^	1%	0.00	• • •	-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.77	0.25	0.82	0.92	0.81	0.92	0.92	0.86	0.80
Hourly flow rate (vph) Pedestrians	0	0	0 .	51	0	106	0	262	0	0	77	85
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked									•			
vC, conflicting volume	381	381	119	381	423	262	162			262		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	381	381	119	381	423	262	162			262		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.1		
tC, 2 stage (s)				• •			• •			•		
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	91 550	100	86	100			100		
cM capacity (veh/h)	501	555	938	556	525	772	1429			1314		acemala de me
		NB 14		是并是			4.0444		an A a	N. P. S.	海面景	新 体 3
Volume Total	157	262	162							•		
Volume Left	51	0	0									
Volume Right cSH	106 686	1700	85 1700									
Volume to Capacity	0.23	1700 0.15	0.10									
Queue Length 95th (ft)	22	0.13	0.10									
Control Delay (s)	11.8	0.0	0.0									
Lane LOS	В	0.0	0.0									
Approach Delay (s)	11.8	0.0	0.0									
Approach LOS	В	575	•									
Intersection Summary		٠.	<u> </u>	1 g s	$L=\mathcal{G}_{\mathcal{I}_{2}}$	ا المريد ا	The Carlo	, v	S. 18. 18	10 Sec. 1	14 JA	
Average Delay			3.2				_					
Intersection Capacity Utilization			25.3%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall Los = 3.2 sec/vol = Los A

	٠	-	•	*	←	•	4	†	~	>	ţ	4
Movement	EBL.	就EBT#	EBR	L WBL	WBT	WBR	NBL	全NBT 個	NBR	高SBL [®]	寫 SBT	家SBR
Lane Configurations		_		• ٧	4			†	. •=		þ	1 41
Volume (veh/h)	.0	0	0 .	- 39		₹ 158	: 10	309	. 0	0-	133	1152
Sign Control		Stop			Stop			Free		_	Free 2%	٠,٠
Grade Peak Hour Factor	0.92	. 0% 0.92	0.92	0.77	1% 0.25	0.82	0.92	-2% 0.81	0.92	0.92	0.86	∞± ∷` 0.80
Hourly flow rate (vph)	0.32	0.32	0.92	· 51	0.25	193	0.32	381	0.32	0.52	155	190
Pedestrians	U	U	U	٥,	U	100	J	001	J	Ū	100	.10,0
Lañe Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type :								None	•		None	• •
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	624	624	250	-004	700	204	345			381		
vC, conflicting volume vC1, stage 1 conf vol	631	631	250	631	726	381	340			201		
vC2, stage 2 conf vol						, .		÷				,·
vCu, unblocked vol	631	631	250	631	726	381	345			381	• •	٠.٠
tC[single](s)			£ 6:2±							4.1	<u>, y</u>	1. TA F
tC, 2 stage (s)	•• • • • • • • • • • • • • • • • • • • •	*********	e an estatura	11 14 14 14 14 14 14 14 14 14 14 14 14 1	ar aurum 1880.			ŕ				Δ.
tÊ(\$)	3.5	4.0	- 3.3 ⋅	3.6	~ 4:0	-3.3	2.2.1	•	•	- 2.2	: : .	À,
p0 queue free %	100	100	100	87	100	71	100			100		
cM capacity (veh/h)	281	401	794	377.	353	661	1226		•	1188	•	
Direction Lane # 44	www.WB.1影	ENBIT	您SBVI等	* 15.50	被排除	V-6-23	100					
Volume Total	243	381	345		. 9.		* *	1 144 1 144	- 10	-		78.5° 1.1. °
Volume Left	51	0	0									
Volume Right.	193	10	190	-						-		: 1 - 1
cSH	572	1700	1700									
Volume to Capacity	0.43	0.22	0:20								٠.٠٠	1.53
Queue Length 95th (ft)	53 15.9	0 0.0	0 0.0									
Control Deläy (s) Lane LOS	10.9 C	0.0	0.0									
Approach Delay (s)	15.9	.0.0	0:0									
Approach LOS	C	.0.0	0.0	•	•							
Intersection Summary								१९ - इर् <i>च</i>				
Average Delay	an any market		4.0									
Intersection Capacity Utiliza	ation	- 11 14	34:9%	, #≒,≇IC	U,Level c	f Service	inn.	: <u>\$</u> ^-	*** :A	N. A.		$t = t^{\prime\prime}$
Analysis Period (min)			15	•								
••												

Overall LOS = 4.0 Jec/vel = Los A

	۶	→	•	•	←	•	4	†	<i>></i>	\	↓	4
Movement 7	EBL	· EBT	-i-EBR	≱ ÉWBL∜	£WBT	SWBR 1	UNBLE	型NBT2	影NBR重	≝ SBL	SBT	要SBR
Lane Configurations					4	- <u> </u>		↑			\$	
Volume (veh/h)	0	0	0	53	1	33	0	169	0	0	113	87
Sign Control		Stop			Stop			Free			Free	
Grade į		0%			1%			-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.25	0.78	0.92	0.90	0.92	0.92	0.71	0.81
Hourly flow rate (vph)	0	O	0	58	4	42	0	188	0	0	159	107
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)								Alaaa			Mana	
Median type								None			None	
Median storage veh) Upstream signal (ft)												
pX, platoon unblocked							•					
vC, conflicting volume	403	401	213	401	454	188	267			188		
vC1, stage 1 conf vol	400	701	210	401	707	100	201			100		
vC2, stage 2 conf vol												
vCu, unblocked vol	403	401	213	401	454	188	267			188		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	100	100	100	90	99	95	100			100		
cM capacity (veh/h)	530	541	832	556	505	837	1309			1399		
Direction Lane #			∛SB∂1	NAME OF THE PARTY	建	沙沙		的制	為此為	in a		
Volume Total	104	188	267									
Volume Left	58	0	0									
Volume Right	42	0	107									
cSH	641	1700	1700									
Volume to Capacity	0.16	0.11	0.16									
Queue Length 95th (ft)	14	0	0									
Control Delay (s) Lane LOS	11.7	0.0	0.0					-				
	В 11.7	0.0	0.0									
Approach Delay (s) Approach LOS	11.7 B	U.U	0.0									
• •		era e como e		numbers of the	ers an American San e	r n. bastar ist t	ina di mana di Mana di mana d	ርቸው መሥታየር ውሳ ነ	EN TOK 20 1960	erekonusik samen	E F EDERAL TIVA	seeving that
Intersection Summary	100				2年2年	泛沙亚说	學家認	美洲部署	A STAN		NO STATE	1100
Average Delay	_		2.2	,,	4111	(O a a a d a a			A			
Intersection Capacity Utilizatio	U.		22.9%	IC	U Level o	Service			Α			
Analysis Period (min)			15									

Overall LOS = 2.2 sec/vel = LOS A

	۶	→	•	*	4	•	4	†	<i>></i> .	\	↓	4
Movement	EBL	EBT	. EBR	WBL	≓WBT".,	-WBR /	NBL ?	∴ NBT.	NBR	'∵SBL®	·····································	SBR
Lane Configurations				_	4		_	†			J >	
Volume (veh/h)	0	0	0	54	1	34	0	172	0	0	115	88
Sign Control		Stop			Stop			Free			Free	
Grade		0%			1%			-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.25	0.78	0.92	0.90	0.92	0.92	0.71	0.81
Hourly flow rate (vph)	0	0	0	59	4	44	. 0	191	0	0	162	109
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage Right turn flare (veh)												
Median type								None			None	
Median storage veh)								NOHE			None	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	409	407	216	407	462	191	271			191		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	409	407	216	407	462	191	271			191		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	100	100	100	89	99	95	100			100		
cM capacity (veh/h)	524	536	829	551	500	833	1305			1395		
Direction, Lane # 501	WB 13	SNB1	SB 15	多是學出	建工的	影響物	经 基础	共多的政		彩度型		的特色
Volume Total	106	191	271									
Volume Left	59	0	0									
Volume Right	44	0	109									
cSH	637	1700	1700									
Volume to Capacity	0.17	0.11	0.16									
Queue Length 95th (ft)	15	0	0									
Control Delay (s)	11.8	0.0	0.0									
Lane LOS	B	Λ.Λ	0.0									
Approach Delay (s) Approach LOS	11.8 B	0.0	0.0									
•							T. W. T. A.		. And man	5 1818: Decem	e le company de la company	one will broke
Intersection Summary.	- 1	T _K = 8, -2	A. 3.1.3			學更是		ie i zad				
Average Delay			2.2	.,	5111	04			٨			
Intersection Capacity Utilizatio	n		23.2%	!(CU Level of	Service	!		Α			
Analysis Period (min)			15									

Overall Los = 2.3 300/rel = Los A

	۶	_ _	*	•	←	4	4	1	<i>></i>	\	ļ	</th
	EBL	数EBT\$	EBR L	WBL-	類WBT高	\$WBR≱	NBL.	NBTE	NBR	SBL	SBT	SBR
Lane Configurations					₩.			<u></u>	_	_	Þ	
Volume (veh/h)	0	0	0	54	1	116	0	284	0	0	194	187
Sign Control		Stop			Stop			Free			Free	
Grade	0.00	0%	0.00	0.00	1%	0.70	0.00	-2%	0.00	0.00	2%	0.54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.25	0.78	0.92	0.90	0.92	0.92	0.71	0.81
Hourly flow rate (vph)	0	0	0	59	4	149	0	316	0	0	273	231
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)								Mana				
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	700	704	200	704	020	240	E04			246		
vC, conflicting volume	706	704	389	704	820	316	504			316		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol	706	704	389	704	820	316	604			240		
vCu, unblocked vol	7.06 7.1	6.5	6.2 -	7.1	6.5	6.3	504 4.1			316 4.1		
tC, single (s)	1.1	0.5	0.2 -	7,1	0.0	0.3	4.1			4.1		
tC, 2 stage (s) tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	100	100	100	83	99	79	100			100		
cM capacity (veh/h)	276	364	664	349	312	709	1071			1256		
				UNIO UNIONA LANG	ರ 12 ಆ ೫೩/೩೪೮೫	100 Sarah Meseter	1073 Persentin	e salas est	DINITERY	I Z O O	en e	
Direction Lane # 12		NB.1.	_SB.1 {	198	素。以為	7. L. L. 1	in the W	SEE SAIL	对这种系统		GALES I	原 生紅
Volume Total	211	316	504									
Volume Left	59	0	0									
Volume Right	149	0	231									
cSH	541	1700	1700									
Volume to Capacity	0.39	0.19	0.30									
Queue Length 95th (ft)	46	0	0									
Control Delay (s)	15.9	0.0	0.0									
Lane LOS	C	0.0	0.0									
Approach Delay (s)	15.9	0.0	0.0									
Approach LOS	С					8						
Intersection Summary	State of the			10.00			Sec.42	and the	144.5	26/12	1.37 (1.34	
Average Delay			3.3									
Intersection Capacity Utiliza	ition		38.5%	IC	U Level o	Service			Α			
Analysis Period (min)			15									

Overall Los = 3.3 sec/el = Los A

	٠	-	•	√	4	*	4	†	1	\	1	4
Movement	EBL	⊈BT	EBR ,	∴WBL ≱	·WBT	WBR in	₩ NBL∮	Ì∄NBT.¥	NBR:	.≨√SBL	€¥SBT∄	SBR
Lane Configurations					€}•			↑			₽	
Volume (veh/h)	0	0	0	56	1	35	0	179	0	. 0	120	92
Sign Control		Stop			Stop			Free			Free	
Grade		0%			1%			-2%			2%	_
Peak Hour Factor	0.92	0.92	0.92	0.92	0.25	0.78	0.92	0.90	0.92	0.92	0.71	0.81
Hourly flow rate (vph)	0	0	0	61	4	45	0	199	0	0	169	114
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	407	405	000	405	404	400	202			400		
vC, conflicting volume	427	425	226	425	481	199	283			199		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol	407	405	ກາດ	105	404	100	202	•		100		
vCu, unblocked vol	427	425	226	425	481 6.5	199	283			199		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
tF (s)	100	100	3.3 100	3.5 89	99	3.4 95	100			100		
p0 queue free % cM capacity (veh/h)	509	524	819	536	487	82 5	1291			1386		
				JJU	407	020	1231		1 - Tr 0 7 12 14 14 13 1	1300	a Transactor i material de	TT-leven
Direction, Lane # Access					AT A SA			在于 人的。				可探討
Volume Total	110	199	283									
Volume Left	61	0	0									
Volume Right	45	0	114									
cSH	623	1700	1700									
Volume to Capacity	0.18	0.12	0.17									
Queue Length 95th (ft)	16	0	0 0.0									
Control Delay (s)	12.0	0.0	0.0									
Lane LOS	12 D	0.0	0.0									
Approach Delay (s)	12.0	0.0	U.U									
Approach LOS	В			ها معادية، ود	Market 1 a	اجادي موس≃	a den istorio	and the Control	rome of a large ways	. 45 . T . 15ml. 140	and the same	ac series
Intersection Summary	25.10	1	in the second	No Work	die Sonia	10/00/2000	3.00 m	all of M	HALL S	《	Ain Can	i Sala
Average Delay			2.2									
Intersection Capacity Utilization	i		23.9%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall Los = 2.3 " " Let = Los A

	٠	-	•	•	←	*	4	†	<i>></i>	-	1	4
Movement 是是是一个	# EBL	EBT.	EBR®	类WBL党	WBT	WBR	ENBL	ENBT	NBR	SBL	SBT	赛SBR
Lane Configurations					₩			†			}	
Volume (veh/h)	0	0	0	56	1	117	0	291	0	0	199	191
Sign Control		Stop			Stop			Free			Free	
Grade		0%			1%			-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.25	0.78	0.92	0.90	0.92	0.92	0.71	0.81
Hourly flow rate (vph)	0	0	0	61	4	150	0	323	0	0	280	236
Pedestrians												
Lane Width (ft)			•									
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)								None			Mono	
Median type								None			None	
Median storage veh) Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	724	722	398	722	839	323	516		•	323		
vC1, stage 1 conf vol	124	122	730	122	000	323	310			525		
vC2, stage 2 conf vol												
vCu, unblocked vol	724	722	398	722	839	323	516			323		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)		0.0	0.2	• • • •	0.0	0.0	•••			,.,		
tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	100	100	100	82	99	79	100			100		
cM capacity (veh/h)	268	356	656	340	304	702	1060			1248		
	WB 1		能SB1層					NEW COME		4-14-24		
Volume Total	215	323	516	<u>ain sensia</u>	A Haracher Services	- 10 The service	DECREE THEFT	THE PARTY OF THE P	oran America	MANAGEM PARTY (M. P.	CONTRACTOR OF CO.	DO HERCEN IN
Volume Left	61	0	0									
Volume Right	150	ŏ	236									
cSH	529	1700	1700									
Volume to Capacity	0.41	0.19	0.30									
Queue Length 95th (ft)	49	0	0									
Control Delay (s)	16.4	0.0	0.0									
Lane LOS	С											
Approach Delay (s)	16.4	0.0	0.0									
Approach LOS	С											
Intersection Summary 4		ETT'S		77 JE 2017		海温度						
Average Delay			3.3	.,				<u></u>				
Intersection Capacity Utilizatio	n		39.2%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall Los = 3.3 sec/Let = Los A

	۶	→	*	•	4	•	4	↑	*	\	↓	4
Movement	EBL,	EBT	.,, EBR	. WBL	.WBT.	WBR	. NBL€	NBT 4	₩NBR	夏 SBL	E SBT	SBR
Lane Configurations					4						1→	
Volume (veh/h)	0	0	0	22	0	75	0	125	0	0	75	72
Sign Control		Stop			Stop			Free			Free	
Grade		0%			1%			-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.69	0.25	0.85	0.25	0.85	0.92	0.92	0.78	0.90
Hourly flow rate (vph)	0	0	0	32	0	88	0	147	0	0	96	80
Pedestrians												
Lane Width (ft) Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)								110110			110110	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	283	283	136	283	323	147	176			147		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	283	283	136	283	323	147	176			147		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	0.5				4.0					2.2		
(F (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100 629	100	95 672	100	90	100			100		
cM capacity (veh/h)	607		918	673	598	905	1412			1447		
Direction, Lane #				100 A	424.1		i seval à					
Volume Total	120	147	176									
Volume Left	32	0	0									
Volume Right	88	0	80									
cSH	829	1700	1700									
Volume to Capacity	0.14	0.09	0.10									
Queue Length 95th (ft)	13 10.1	0 0.0	0 0.0									
Control Delay (s) Lane LOS	10.1 B	0.0	0.0									
Approach Delay (s)	10.1	0:0	0.0									
Approach LOS	10.1 B	0.0	0.0									
Intersection Summary		٠		;;;	5-51/X			ر ماريخ في ا	100 May 25	मानका प्रका	i di	
Average Delay			2.7	<u> </u>			<u> · · · · · · · · · · · · · · · · · </u>	<u> </u>	2 . 100 7 1. 32			
Intersection Capacity Utilization			20.9%	IC	U Level c	f Service)		Α			
Analysis Period (min)			15									

Overall LOS = 2.7 sec/veh = Los A

	٠	-	•	•	4	4	4	†	1	-	. ↓	4
Movement	I EBL	EBT!	EBR 答	WBL	類WBT器	装WBR 2	NBL	謂NBT&	NBR	SBL	SBT	SBR
Lane Configurations					₩.			†			1>	
Volume (veh/h)	0	0	0	22	0	76	0	127	0	0	76	73
Sign Control		Stop			Stop			Free			Free	
Grade		0%			1%			-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.69	0.25	0.85	0.25	0.85	0.92	0.92	0.78	0.90
Hourly flow rate (vph)	0	0	0	32	0	89	0	149	0	0	97	81
Pedestrians												
Lane Width (ft)												
Walking Speed (fVs)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	207	207	420	007	200	440	470			440		
vC, conflicting volume	287	287	138	287	328	149	179			149		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol	207	207	420	207	220	4.40	170			440		
vCu, unblocked vol	287	287 6.5	138	287	328	149	179			149		
tC, single (s)	7.1	6.0	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	3.5	4.0	3.3	2 5	4.0	2.2	2.2			2.2		
tF (s)	100	100	3.3 100	3.5 95	100	3.3 90	100			100		
p0 queue free %		626			594					1444		
cM capacity (veh/h)	603		916	669	J94	902	1409			14 44		
Direction Lane #			新SB 1使	語が開	E VENEZA			13,14(8	是企业			
Volume Total	121	149	179									
Volume Left	32	0	0									
Volume Right	89	0	81									
cSH	827	1700	1700									
Volume to Capacity	0.15	0.09	0.11									
Queue Length 95th (ft)	13	0	0									
Control Delay (s)	10.1	0.0	0.0									
Lane LOS	B	0.0	0.0									
Approach Delay (s)	10.1	0.0	0.0									
Approach LOS	В											
Intersection Summary		大学基础	C. 10. 10. 10.					经规则				
Average Delay			2.7									
Intersection Capacity Utilization	n		21.0%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall LOS = 2.6 sec/vel = LOS A

	٨		*	√	←	*	•	†	~	\	Ţ	4
Movement	EBL	EBT .	EBR	WBL	. WBT₃	∍WBR\$	NBL .	S NBT	NBR	SBL	SBT。	為SBR
Lane Configurations					4			†			₽	
Volume (veh/h)	0	0	0	22	. 0	172	0	258	0	0	162	181
Sign Control		Stop			Stop			Free			Free	
Grade		0%			1%			-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.69	0.25	0.85	0.25	0.85	0.92	0.92	0.78	0.90
Hourly flow rate (vph)	0	0	0	32	0	202	0	304	0	0	208	201
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)								Mana			Maria	
Median type								None			None	
Median storage veh)												
Upstream signal (ft) pX, platoon unblocked												
vC, conflicting volume	612	612	308	612	712	304	409			304		
vC1, stage 1 conf vol	012	012	300	012	112	304	409			304		
vC2, stage 2 conf vol												
vCu, unblockéd vol	612	612	308	612	712	304	409			304		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	,,,	0.0	0.2	1.1	0.0	0.2	7.1	-		7.1		
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	92	100	73	100			100		
cM capacity (veh/h)	297	411	736	408	360	741	1161			1269		
		WNB 小家				4.75.7027						
Volume Total	234	304	409			30.00	KANAMETER	(BESTARD)				
Volume Left	32	0	0									
Volume Right	202	ő	201									
cSH	667	1700	1700									
Volume to Capacity	0.35	0.18	0.24									
Queue Length 95th (ft)	39	0	0									
Control Delay (s)	13.3	0.0	0.0									
Lane LOS	В											
Approach Delay (s)	13.3	0.0	0.0									
Approach LOS	В											
Intersection Summary		1 mg.		视频	MHT.			都可能				
Average Delay			3.3									
Intersection Capacity Utilization	l		38.1%	IC	U Level of	Service			Α			
Analysis Period (min)			15									

Overall Los = 3.2 sec/vel = Los A

	۶	→	*	€	•	4	4	†	<i>></i>	\	↓	4
Movement型型表表示	;;EBL®	EBT	EBR	家.WBL®	翼WBT影	WBR 發	NBL	MINBTA	NBR!	SBL	SBT	SBR
Lane Configurations				 "	43-			†			\$	
Volume (veh/h)	0	0	0	23	0	80	0	133	0	0	80	76
Sign Control		Stop			Stop			Free			Free	
Grade		0%			1%			-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.69	0.25	0.85	0.25	0.85	0.92	0.92	0.78	0.90
Hourly flow rate (vph)	0	0	0	33	0	94	0	156	0	0	103	84
Pedestrians Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)								110110			110110	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	301	301	145	301	343	156	187			156		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	301	301	145	301	343	156	187			156		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	95	100	89	100			100		
cM capacity (veh/h)	586	615	908	655	582	894	1399			1436		
Direction Lane # 82		NB 13	ESB18	美國						and the		
Volume Total	127	156	187									
Volume Left	33	0	0									
Volume Right	94	0	84									
cSH	816	1700	1700									
Volume to Capacity	0.16	0.09	0.11									
Queue Length 95th (ft)	14	0	0									
Control Delay (s)	10.2 B	0.0	0.0		,							
Lane LOS	10.2	0.0	0.0									
Approach Delay (s) Approach LOS	10.2 B	0.0	0.0									
• •	D	محد المام والمحدة							na may i san a "and three the			
Intersection Summary		型等	1937 美沙						通常的	ALTO A		
Average Delay			2.8									
Intersection Capacity Utilization	1		21.7%	IC	U Level o	t Service			Α			
Analysis Period (min)			15									

Overall LOS = 2.7 sec/rel = LOS A

	٠	-	*	•	•	4	•	†	<i>/</i>	/	↓	-√
Movement 5 2	EBL	EBT	EBR:	- WBL	WBT	∯WBR i	為NBL [©]	NBT 5	%NBR	. SBL	菜 SBT 养	SBR
Lane Configurations					₩			↑			↑	
Volume (veh/h)	0	0	0	23	0	176	0	264	,O	0	166	184
Sign Control		Stop			Stop			Free			Free	
Grade		0%			1%			-2%			2%	
Peak Hour Factor	0.92	0.92	0.92	0.69	0.25	0.85	0.25	0.85	0.92	0.92	0.78	0.90
Hourly flow rate (vph)	0	0	0	33	0	. 207	0	311	0	0	213	204
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh) Median type								Mono			None	
Median storage veh)								None			None	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	626	626	315	626	728	311	417			311		
vC1, stage 1 conf vol	020	020	0.0	020	, 20	• • • • • • • • • • • • • • • • • • • •	,,,			· · ·		
vC2, stage 2 conf vol												
vCu, unblocked vol	626	626	315	626	728	311	417			311		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	92	100	72	100			100		
cM capacity (veh/h)	287	404	730	400	353	734	1153			1261		
Direction Lane #	WB1	WINB'12	SB19							W TOTAL	7.4E	
Volume Total	240	311	417				-					
Volume Left	33	0	0									
Volume Right	207	0	204									
cSH	658	1700	1700									
Volume to Capacity	0.37	0.18	0.25									
Queue Length 95th (ft)	42	0	0									
Control Delay (s)	13.6	0.0	0.0									
Lane LOS	В											
Approach Delay (s)	13.6	0.0	0.0									
Approach LOS	В											
Intersection Summary	<u> </u>			the White &		Śź.	ويبياء فالماء بم	ro arthured a r		31.2	人名称思	
Average Delay			3.4									
Intersection Capacity Utilization	on		38.8%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overell Los = 3.3 sec/rel = Los A

	۶	•	4	†	ļ	4			
Movement 3-55-	SEE EBLE	数EBR	NBL	NBT.	袋 SBT為	SBR X	产型高级 用点		
Lane Configurations		<u></u>		4	↑				
Volume (veh/h)	0	0	13	200	99	0			
Sign Control	Stop			Free	Free				
Grade	0%			-2%	2%				
Peak Hour Factor	0.92	0.92	0.65	0.81	0.86	0.92			
Hourly flow rate (vph)	0	0	20	247	115	0			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s) Percent Blockage									
Right turn flare (veh)									
Median type				None	None				
Median storage veh)				HOHE	110110				
Upstream signal (ft)									
pX, platoon unblocked									
vC, conflicting volume	402	115	115						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	402	115	115						
tC, single (s)	6.4	6.2	4.2						
tC, 2 stage (s)									
tF (s)	3.5	3.3	2.3						
p0 queue free %	100	100	99						
cM capacity (veh/h)	599	943	1397						
	验NBIT			AL LAN	2000年	经验证	湯湯温部		医球型
Volume Total	267	115							
Volume Left	20	0							
Volume Right	0	0							
cSH Mahama ta Canadiba	1397	1700							
Volume to Capacity	0.01 1	0.07 0							
Queue Length 95th (ft) Control Delay (s)	0.7	0.0							
Lane LOS	0.7 A	0.0							
Approach Delay (s)	0.7	0.0							
Approach LOS	•	0.0							
Intersection Summary		2岁以外		WEST	485元的	位置被其	Since you		
Average Delay			0.5					-	
Intersection Capacity Utilizati	on		21.2%	IC	CU Level o	f Service		Α	
Analysis Period (min)			15						

Overall LOS = 0.5 sec/vel = LOS A

	•	•	4	†	Ţ	4			
Movement	禁 EBL H	WEBR	IS NBL	S NBT	SESBT#	聚SBR 選集			
Lane Configurations				र्स					
Volume (veh/h)	0	0	13	203	101	0			
Sign Control	Stop		_	Free	Free	_			
Grade	0%			-2%	2%				
Peak Hour Factor	0.92	0.92	0.65	0.81	0.86	0.92			
Hourly flow rate (vph)	0	0	20	251	117	0			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)								•	
Median type				None	None				
Median storage veh)									
Upstream signal (ft)									
pX, platoon unblocked									
vC, conflicting volume	408	117	117						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	408	117	117						
tC, single (s)	6.4	6.2	4.2						
tC, 2 stage (s)									
tF (s)	3.5	3.3	2.3						
p0 queue free %	100	100	99						
cM capacity (veh/h)	595	940	1394						
Direction, Lane #	NB1	∳.SB1.>		A Last	LA LEGIS			Wall W	
Volume Total	271	117							
Volume Left	20	0							
Volume Right	0	0							
cSH	1394	1700							
Volume to Capacity	0.01	0.07							
Queue Length 95th (ft)	1	0							
Control Delay (s)	0.7	0.0							
Lane LOS	Α								
Approach Delay (s)	0.7	0.0							
Approach LOS									
Intersection Summary		到此時				是西兴军	NEW T		
Average Delay			0.5						
Intersection Capacity Utiliza	ation		21.4%	IC	U Level o	f Service		Α	
Analysis Period (min)			15						

Overall LOS = 0.5 sec/vel = LOS A

	۶	•	•	†	↓	4			
Movement	·· EBL	EBR	NBL	NBT	SBT	. SBR	and the second		型 学) 建聚氯烷
Lane Configurations					<u></u>				
Volume (veh/h)	0	0	13	300	168	0			
Sign Control	Stop			Free	Free				
Grade	0%			-2%	2%				
Peak Hour Factor	0.92	0.92	0.65	0.81	0.86	0.92			
Hourly flow rate (vph)	0	0	20	370	195	0			
Pedestrians		'							
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type				None	None				
Median storage veh)									
Upstream signal (ft)									
pX, platoon unblocked									
vC, conflicting volume	606	195	195						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	606	195	195						
tC, single (s)	6.4	6.2	4.2						
tC, 2 stage (s)	0.5	0.0							
tF (s)	3.5	3.3	2.3						
p0 queue free %	100	100	98						
cM capacity (veh/h)	457	851	1303						
Direction, Lane #	NB/12	_	地震的			PER PER S		海绵化学	
Volume Total	390	195							
Volume Left	20	0							
Volume Right	0	0							
cSH	1303	1700							
Volume to Capacity	0.02	0.11							
Queue Length 95th (ft)	1	0							
Control Delay (s)	0.5	0.0							
Lane LOS	A								
Approach Delay (s)	0.5	0.0							
Approach LOS									
Intersection Summary	98 \$ <u>3</u>	•	-:	ra vigar.		DAKE !	entales de	# State	在四个时间
Average Delay			0.4	. –				_	
Intersection Capacity Utiliza	ation		29.7%	IC	U Level o	t Service		Α	
Analysis Period (min)			15						

Overall LOS = 0.3 select = LOJ A

	≯	•	•	†	↓	4				·
Movement	EBL	EBR	- NBL	NBT.	ŽÄSBT∰	€¥SBR ⅓&				
Lane Configurations				स	†					
Volume (veh/h)	0	0	14	212	105	0				
Sign Control	Stop			Free	Free			•		
Grade	0%			-2%	2%					
Peak Hour Factor	0.92	0.92	0.65	0.81	0.86	0.92				
Hourly flow rate (vph)	0	0	22	262	122	0				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh) Median type				Mana	None					
Median storage veh)				None	None					
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	427	122	122							
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	427	122	122							
tC, single (s)	6.4	6.2	4.2							
tC, 2 stage (s)										
tF (s)	3.5	3.3	2.3							
p0 queue free %	100	100	98							
cM capacity (veh/h)	579	934	1388							
Direction, Lane #3	aNB 1			المناسك المناسبة	e disabili	sikalekok	aryanan e	有品在的 。2	企业	Sales
Volume Total	283	122								
Volume Left	22	0								
Volume Right	0	0								
cSH	1388	1700					•			
Volume to Capacity	0.02	0.07								
Queue Length 95th (ft)	1	0								
Control Delay (s)	0.7	0.0								
Lane LOS	A 0.7	0.0								
Approach Delay (s) Approach LOS	0.1	0.0								
• •			, ; 48 ar	48° 71.9 4	LOCKETTON.	griffing first states were	, programme of the contract of	ብኒኒርር የመጀመሪያ ተቀማ ተ	· October State (State Company)	CERTS SANS LANGUE
Intersection Summary	4420 N + 12	1. 1. 2 . 1.	3 . 1/2/12		autoria.	出有的人	新年度	种类对于是		Park Mark
Average Delay			0.5		- اشتمادا	d Conésa		A		
Intersection Capacity Utilization]		21.9% 15	IC	U Level o	o Service		Α		
Analysis Period (min)			Ci							

Overall LOS = 0.5 sec/vel = Los A

	•	*	4	†	↓	∢	
Movement	EBL	EBR	NBL	第NBTs	#ESBT/S	SBR	
Lane Configurations				स	†		
Vốlume (veh/h)	0	0	14	309	172	0	
Sign Control	Stop			Free	Free		
Grade	0%			-2%	2%		
Peak Hour Factor	0.92	0.92	0.65	0.81	0.86	0.92	
Hourly flow rate (vph)	. 0	<u>,</u> 0	. 22	381	200	0	
Pedestrians							
Lane Width (ft)			4. • 54.	"ارچکر :	المراأة	•	
Walking Speed (ff/s)							
Percent Blockage						•	
Right turn flare (veh)				مساف	What a		
Median, type			•	None	None,		
Median storage veh) Upstream signal (ft)							1
pX, platoon unblocked							
vC. conflicting volume	625	200	200		٠,		and the second s
vC1, stage 1 conf vol	020	200	200	•			هه ۱۹۶۶ خو هو ۱۹۹۵
vC2, stage 2 conf vol							,÷.,
vCu, unblocked vol	625	200	200				
tC, single (s)	6.4	6.2	4.2				-
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.3				• • • • • • • • • • • • • • • • • • • •
p0 queue free %	100	100	98				• •
cM capacity (veh/h)	445	. 4846	्द्र 1298 -			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	· 1994年,1998年第二屆
Direction Lane # 4400 5500	NR 42	SB1		5個警告	i de la companya de		
				1.5	THE TOTAL	(2) (A)	
Volume Left	22	0	4. de 2 . in 12	er i i este so	elika interior	in Astronomy	i kar palitangan kemengan pengan salam salah pada pada mengan salam salam pengan pengan pengan pengan pengan p Pangan palitangan kemengan pengan pengan salam salam pengan pengan pengan pengan pengan pengan pengan pengan p
Volume Right	-0		,				T.
cSH	1298	1700					,
Volume to Capacity	.0:02	0.12			•		Service of Girls
Queue Length 95th (ft)	1	0					C ,
Control Delay (s)	0:6	.0.0					
Lane LOS	Α						
Approach Delay (s)	0.6	∙0.0	•				e de la companya de
Approach LOS							
ntersection Summary		19.2E		THE C			
Average Delay			0.4			_	
Intersection Capacity Utilization			31.0%	IC	CU Level:of	Service	A
Analysis Period (min)			15				

Overall LOS = 0.4 Jec/vel = LOS A

	٠	•	4	†	↓	4			•		
Movement	∵EBL\$	∴ EBR₃	A NBL	製NBT	aig SBT。	© SBR			医型流		
Lane Configurations				4	†				· · · ·	•	
Volume (veh/h)	0	0	· 17	169	146	0					
Sign Control	Stop			Free	Free						
Grade	0%			-2%	2%						
Peak Hour Factor	0.92	0.92	0.85	0.90	0.71	0.92					
Hourly flow rate (vph)	0	0	20	188	206	0					
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)											
Percent Blockage											
Right turn flare (veh)											
Median type				None	None						
Median storage veh)											
Upstream signal (ft)											
pX, platoon unblocked											
vC, conflicting volume	433	206	206								
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	433	206	206								
tC, single (s)	6.4	6.2	4.2								
tC, 2 stage (s)											
tF (s)	3.5	3.3	2.3								
p0 queue free %	100	100	98								
cM capacity (veh/h)	574	840	1308								
Direction, Lane # 1979			即實際		3代臺灣2	阿斯姆斯		SOUTH THE			
Volume Total	208	206									
Volume Left	20	0									
Volume Right	0	0									
cSH	1308	1700									
Volume to Capacity	0.02	0.12									
Queue Length 95th (ft)	1	0									
Control Delay (s)	0.9	0.0									
Lane LOS	Α										
Approach Delay (s)	0.9	0.0									
Approach LOS											
Intersection Summary		Kiej	SECTION	保証集			TO BE	经单级			
Average Delay			0.4								
Intersection Capacity Utilization	1		24.2%	IC	U Level o	f Service			A		
Analysis Period (min)			15								

Overall LOS = 0.5 sec/lek = LOS A

	٠	•	4	†	+	4	
Movement	- EBL	EBR	NBL 1	NBT	SEI SBT	∦SBR 🖫	
Lane Configurations				4	↑		
Volume (veh/h)	0	0	17	172	149	0	
Sign Control	Stop			Free	Free		
Grade	0%			-2%	2%		
Peak Hour Factor	0.92	0.92	0.85	0.90	0.71	0.92	
Hourly flow rate (vph)	0	0	20	191	210	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							·
vC, conflicting volume	441	210	210				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	441	210	210				
tC, single (s)	6.4	6.2	4.2				
tC, 2 stage (s)	2.5		0.0				
tF (s)	3.5	3.3	2.3			ť	
p0 queue free %	100	100	98				
cM capacity (veh/h)	569	835	1304				
		, ,SB₁1≟.	1.44	James 4 7	新见的东		为公司,其他公司和
Volume Total	211	210					
Volume Left	20	0					
Volume Right	0	0					
cSH	1304	1700					
Volume to Capacity	0.02	0.12					
Queue Length 95th (ft)	1	0					
Control Delay (s)	0.9	0.0					
Lane LOS	A	0.0					
Approach Delay (s) Approach LOS	0.9	0.0					
• •	421 Maria	tan are an	Mange Suc.	A Franch, or parties and	Markey	or ligacija protypologija po do	· · · · · · · · · · · · · · · · · · ·
Intersection Summary	285	源。对抗		5 30 L	在 其数据		
Average Delay			0.4		N		A
Intersection Capacity Utilization	n		24.5%	10	CU Level o	t Service	A
Analysis Period (min)			15				

Overall LOS = 0.5 sec/rel = LOS A

	≯	>	4	†	↓	✓			
Movement	EBL ■	ZIEBR (NBL'S	SaNBT?	製 SBT D	SBR. A			
Lane Configurations				स	†				
Volume (veh/h)	0	0	17	284	228	0			
Sign Control	Stop			Free	Free				
Grade	0%			-2%	2%				
Peak Hour Factor	0.92	0.92	0.85	0.90	0.71	0.92			
Hourly flow rate (vph)	0	0	20	316	321	0			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type				None	None				
Median storage veh)									
Upstream signal (ft)									
pX, platoon unblocked	077	804	004						
vC, conflicting volume	677	321	321						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol vCu, unblocked vol	67 7	204	321						
tC, single (s)	6.4	321 6.2	4.2						
tC, 2 stage (s)	0.4	0.2	4.2						
tF (s)	3.5	3.3	2.3						
p0 queue free %	100	100	98						
cM capacity (veh/h)	414	724	1184						
Direction Lane #35				en hazz		and Sign			
Volume Total	336	321	PER	24 (1994)	ARTE FOR THE MAI	A CANADA SA	THE SECTION OF THE SE	and and the second	etian Commercial Principal States in Com-
Volume Left	20	0							
Volume Right	0	ő							
cSH	1184	1700							
Volume to Capacity	0.02	0.19	•						
Queue Length 95th (ft)	1	0							
Control Delay (s)	0.6	0.0							
Lane LOS	Α								
Approach Delay (s)	0.6	0.0							
Approach LOS									
Intersection Summary	在海外		× 274	湖南部	亚克 拉				
Average Delay			0.3						
Intersection Capacity Utilization	п		32.2%	IC	:U Level o	f Service		Α	
Analysis Period (min)			15						

Overall Los = 0.3 sec/el = Los A

	→	•	4	†	↓	4					
Movement Constant and the	EBL	. EBR	NBL.	. NBT 3		SBR & A		er er veriere Berkheimer			
Lane Configurations				4	†	de 30 - 11 Sudi M		3(12-1: 317.217.	CHINEMATIC: 44	243327.1.	(A. 1)
Volume (veh/h)	0	0	18	179	155	0					
Sign Control	Stop	-		Free	Free	•					
Grade	0%			-2%	2%						
Peak Hour Factor	0.92	0.92	0.85	0.90	0.71	0.92					
Hourly flow rate (vph)	0	0	21	199	218	0					
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)											
Percent Blockage											
Right turn flare (veh)											
Median type				None	None						
Median storage veh)											
Upstream signal (ft)											
pX, platoon unblocked											
vC, conflicting volume	460	218	218								
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	460	218	218								
tC, single (s)	6.4	6.2	4.2								
IC, 2 stage (s)											
tF (s)	3.5	3.3	2.3								
p0 queue free %	100	100	98								
cM capacity (veh/h)	554	826	1294								
Direction Lane # 312 350			是最高的	學制度	进行	distance of the second	KNEW,	14.4			
Volume Total	220	218									
Volume Left	21	0									
Volume Right	0	0									
cSH	1294	1700									
Volume to Capacity	0.02	0.13									
Queue Length 95th (ft)	1	0									
Control Delay (s)	0.9	0.0									
Lane LOS	A	0.0									
Approach Delay (s)	0.9	0.0									
Approach LOS	tana antana dia dia dia dia dia dia dia dia dia di		****		an management of the control of the	all conserve of a carriery Prof. A	om Talkings som s	e tomorrou zanici ili.	- v1316. 1511.43	of a whiten the Soft and	na Maria Caranta
Intersection Summary		2.5		不是自己			3.33 3.4	4-1-1-4			被型型数
Average Delay			0.4	,,,	- ا نا ۱۱	f Conde			٨		
Intersection Capacity Utilization	ori		25.2%	IC	CU Level o	o Service			Α		
Analysis Period (min)			15								

Overall LOS = O.S sec/vel = LOS A

	≯	•	4	†	↓	✓				
Movement	ا EBL (EBR	siNBL:	NBT	Ø≸SBT∄	源SBR製剤		West To	温度作業計	
Lane Configurations				<u>-</u>	<u></u>					
Volume (veh/h)	0	0	18	291	234	0				
Sign Control	Stop			Free	Free					
Grade	0%			-2%	2%					
Peak Hour Factor	0.92	0.92	0.85	0.90	0.71	0.92				
Hourly flow rate (vph)	0	0	21	323	330	0				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type				None	None					
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	695	330	330							
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	695	330	330							
tC, single (s)	6.4	6.2	4.2							
tC, 2 stage (s)										
tF (s)	3.5	3.3	2.3							
p0 queue free %	100	100	98				_			
cM capacity (veh/h)	404	717	1176							
Direction, Lane # 3 15 12		SB 1		的都是	引擎的	对外的				
Volume Total	345	330								
Volume Left	21	0								
Volume Right	0	0								
cSH	1176	1700								
Volume to Capacity	0.02	0.19								
Queue Length 95th (ft)	1	0								
Control Delay (s)	0.7	0.0								
Lane LOS	A									
Approach Delay (s)	0.7	0.0								
Approach LOS										er-There's teamen
Intersection Summary			37.7				发现证据		并非正式的数据	
Average Delay			0.3			.				
Intersection Capacity Utilizatio	n		33.4%	IC	:U Level o	T Service		Α		
Analysis Period (min)			15							

Overall LOS = 0.4 sec/let = LOS A

	•	•	4	†	ļ	4	
Movement	EBL.	EBR ₁	_ NBL%	NBT.	≨; SBT≨	题SBR 数	
Lane Configurations				न	↑		
Volume (veh/h)	0	0.	6	125	97	0	
Sign Control	Stop			Free	Free		
Grade	0%			-2%	2%		•
Peak Hour Factor	0.92	0.92	0.50	0.85	0.78	0.92	
Hourly flow rate (vph)	0	0	12	147	124	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Median storage veh)						·	
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	295	124	124				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	005	404	404				
vCu, unblocked vol	295	124	124 4.1				
tC, single (s)	6.4	6.2	4.1				
tC, 2 stage (s) tF (s)	3.5	3.3	2.2				
p0 queue free %	100	100	99				
cM capacity (veh/h)	694	932	1475				
Direction Lane #:			್ಟ್ ಪ್ರಾ	و المراجعة الماء		STATE OF STATE	
Volume Total	159	124	<u> </u>	E-FE	2018-1-1-10-10-10-10-10-10-10-10-10-10-10-10	- 400 SA 23 FASS R	A CANADA PARA SALAT MANA MANA MANA MANA MANANA MANA
Volume Left	12	0					
Volume Right	0	0					
cSH	1475	1700					
Volume to Capacity	0.01	0.07					
Queue Length 95th (ft)	1	0.07					
Control Delay (s)	0.6	0.0					
Lane LOS	A						
Approach Delay (s)	0.6	0.0					
Approach LOS							
Intersection Summary		法教徒					
Average Delay			0.4				The second of th
Intersection Capacity Utiliza	tion		14.8%	1C	U Level o	f Service	Α
Analysis Period (min)			15				

Overall LOS . 0.3 se WeL = LOS A

	≯	*	4	†	↓	4					
Movement 6	EBL :	EBR.	SENBLE.	NBT	ĕ≸SBT±	SBR SE	市企业公司	er er			海蘇
Lane Configurations				<u> </u>	†						
Volume (veh/h)	0	0	6	127	99	0					
Sign Control	Stop			Free	Free						
Grade	0%			-2%	2%						
Peak Hour Factor	0.92	0.92	0.50	0.85	0,78	0.92					
Hourly flow rate (vph)	0	0	12	149	127	0					
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)											
Percent Blockage											
Right turn flare (veh)											
Median type				None	None						
Median storage veh)											
Upstream signal (ft)											
pX, platoon unblocked											
vC, conflicting volume	300	127	127								
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	300	127	127								
tC, single (s)	6.4	6.2	4.1								
tC, 2 stage (s)											
tF (s)	3.5	3.3	2.2								
p0 queue free %	100	100	99								
cM capacity (veh/h)	690	929	1472								
Direction Lane # 32 33			1.00	研究		电影中观察	电影器的 国	阿斯斯	哪些		
Volume Total	161	127								•	
Volume Left	12	0									
Volume Right	0	0									
cSH	1472	1700									
Volume to Capacity	0.01	0.07							•		
Queue Length 95th (ft)	1	0									
Control Delay (s)	0.6	0.0									
Lane LOS	A	0.0									
Approach Delay (s)	0.6	0.0									
Approach LOS											
Intersection Summary	ता महिल्ली				i i		以 對中央認		#15.73	FIXE	
Average Delay			0.3		MII 4						
Intersection Capacity Utilization	1		14.9%	IC	CU Level o	r Service		F	4		
Analysis Period (min)			15								

Overall LOS = 0.3 sec/vel = LOS A

	≯	•	4	†	ļ	4		
Movement .	EBL	EBR	: NBE]	NBT	SBT j	SBR 25		
Lane Configurations				न	<u></u>	<u> </u>		
Volume (veh/h)	0	0	6	258	185	0		
Sign Control	Stop			Free	Free			
Grade	0%			-2%	2%			
Peak Hour Factor	0.92	0.92	0.50	0.85	0.78	0.92		
Hourly flow rate (vph)	0	0	12	304	237	0		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type				None	None			
Median storage veh)								
Upstream signal (ft)								
pX, platoon unblocked								
vC, conflicting volume	565	237	237					
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	565	237	237					
tC, single (s)	6.4	6.2	4.1					
tC, 2 stage (s)			_					
tF (s)	3.5	3.3	2.2					
p0 queue free %	100	100	99					
cM capacity (veh/h)	485	807	1342					
Direction, Lane #		- 'SB <u>'</u> 1 -	. 3 lin	ing will		the said of		W
Volume Total	316	237					•	
Volume Left	12	0						
Volume Right	0	0						
cSH	1342	1700						
Volume to Capacity	0.01	0.14						
Queue Length 95th (ft)	1	0						
Control Delay (s)	0.4	0.0						
Lane LOS	A							
Approach Delay (s)	0.4	0.0						
Approach LOS								
Intersection Summary								10
Average Delay			0.2					
Intersection Capacity Utilization)		21.7%	IC	U Level o	f Service	Α	
Analysis Period (min)			15					

Overall Los = 0.2 sec/el = Los A

	→	•	•	†	↓	4			
Movement	ÈBL &	∉EBR å	a≨NBL4	≸NBT∂	SBT	SBR 3			
Lane Configurations				4	<u></u>	2.0.	ALLOW THE THE PARTY	140.121.40.40.44	 Will I Vite
Volume (veh/h)	0	0	6	133	103	0			
Sign Control	Stop			Free	Free				
Grade	0%			-2%	2%				
Peak Hour Factor	0.92	0.92	0.50	0.85	0.78	0.92			
Hourly flow rate (vph)	0	0	12	156	132	0			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage Right turn flare (veh)									
Median type				None	None				
Median storage veh)				MOHE	None				
Upstream signal (ft)									
pX, platoon unblocked									
vC, conflicting volume	313	132	132						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	313	132	132						
tC, single (s)	6.4	6.2	4.1						
tC, 2 stage (s)									
tF (s)	3.5	3.3	2.2						
p0 queue free %	100	100	99						
cM capacity (veh/h)	679	923	1465						
Direction Lane #									
Volume Total	168	132							
Volume Left	12	0							
Volume Right	0	1700							
cSH Volume to Capacity	1465 0.01	1700 0.08							
Queue Length 95th (ft)	1	0.00							
Control Delay (s)	0.6	0.0							
Lane LOS	Α.	0.0							
Approach Delay (s)	0.6	0.0							
Approach LOS									
Intersection/Summary	975475A	阿里	信制。	東京時					
Average Delay			0.3						 <u> </u>
Intersection Capacity Utiliza	tion		15.2%	10	U Level o	f Service		Α	
Analysis Period (min)			15						

Overall LOS = 0.3 sec/vel = LOS A

	≯	•	4	†	↓	4				
Movement Exp	,*∉BL%	EBR'	ENBLS	≱ NBT .	SSBT.	SBR 1820				
Lane Configurations	 : :			ન	†		No september		. It will be a second	CAN CAN MAKE
Volume (veh/h)	0	0	6	264	189	0				
Sign Control	Stop			Free	Free					
Grade	0%			-2%	2%					
Peak Hour Factor	0.92	0.92	0.50	0.85	0.78	0.92				
Hourly flow rate (vph)	0	0	12	311	242	0				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type				None	None					
Median storage veh)										
Upstream signal (ft)										
pX, platoon unblocked										
vC, conflicting volume	577	242	242							
vC1, stage 1 conf vol								•		
vC2, stage 2 conf vol										
vCu, unblocked vol	577	242	242							
tC, single (s)	6.4	6.2	4.1							
tC, 2 stage (s)										
tF (s)	3.5	3.3	2.2							
p0 queue free %	100	100	99							
cM capacity (veh/h)	478	801	1336							
Direction Lane # 444			化的		PANAL.		的意志		auri de din	
Volume Total	323	242								
Volume Left	12	0								
Volume Right	0	0								
cSH	1336	1700								
Volume to Capacity	0.01	0.14								
Queue Length 95th (ft)	. 1	0								
Control Delay (s)	0.4	0.0								
Lane LOS	A									
Approach Delay (s)	0.4	0.0								
Approach LOS										
Intersection Summary 3	N THE	计算表	的影響	THE P			经营业		公共 2007年	
Average Delay			0.2							
Intersection Capacity Utilizatio	'n		22.0%	IC	CU Level o	f Service		Α		
Analysis Period (min)			15							

Overall LOS = 0.2 sec/el = LOS A

	۶	→	*	•	←	•	4	1	~	\	↓	4
Movement	EBL!	EBT	器EBR3	SWBE S	WBT.	WBR 3	愛NBL	%NBT 刻	NBR.	∦ SBL√	SBT	SBR
Lane Configurations		4						1→			र्स	
Volume (veh/h)	147	0	11	0	0	0	0	65	37	33	67	0
Sign Control		Stop			Stop			Free			Free	
Grade		3%			0%			2%			-2%	
Peak Hour Factor	0.80	0.25	0.69	0.92	0.92	0.92	0.92	0.86	0.62	0.69	0.84	0.92
Hourly flow rate (vph)	184	0	16	0	0	0	0	76	60	48	80	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	004	044	00	004	004	405	00			405		
vC, conflicting volume	281	311	80	281	281	105	80			135		
vC1, stage 1 conf vol												
vC2, stage 2 conf vot	004	044		004	004	405	00			405		
vCu, unblocked vol	281	311	80	281	281	105	80			135		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	٥.		0.4	0.5			0.0			0.0		
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	72	100	98	100	100	100	100			97		
cM capacity (veh/h)	656	587	961	647	610	954	1531			1443		•
Direction Lane #			級SB 消毒	等可以			4.24	H. K. W.		斯斯斯	知道强	
Volume Total	200	135	128									
Volume Left	184	0	48									
Volume Right	16	60	0									
cSH	673	1700	1443									
Volume to Capacity	0.30	80.0	0.03									
Queue Length 95th (ft)	31	0	3									
Control Delay (s)	12.6	0.0	3.0							•		
Lane LOS	В		Α									
Approach Delay (s)	12.6	0.0	3.0									
Approach LOS	В											
Intersection Summary				型印度	W Z @				种洲底	李 斯基特	9000	
Average Delay			6.3									
Intersection Capacity Utilization			27.5%	ICI	J Level of	Service			Α			
Analysis Period (min)			15									

Overall LOS = 6.4 reflet = LOS A

	۶	→	•	✓	4 -	•	1	†	<i>></i>	\	↓	4
Movement See	EBL	.EBT	EBR	,WBL ,	·WBT ·	WBR .	NBL	∴NBT .	NBR,		, SBT	SBR
Lane Configurations		44			<u>-</u> -	-		1→	,			
Volume (veh/h)	150	0	11	0	0	0	0	66	38	34	68	0
Sign Control		Stop			Stop			Free			Free	
Grade		3%			0%			2%			-2%	
Peak Hour Factor	0.80	0.25	0.69	0.92	0.92	0.92	0.92	0.86	0.62	0.69	0.84	0.92
Hourly flow rate (vph)	188	0	16	0	0	0	0	77	61	49	81	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	287	318	81	287	287	107	81			138		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol					_							
vCu, unblocked vol	287	318	81	287	287	107	81			138		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	71	100	98	100	100	100	100			97		
cM capacity (veh/h)	650	581	960	641	605	952	1529			1440		
Direction, Lane # 300			器 SB1学	學院。		THE REAL PROPERTY.		9473				X Table
Volume Total	203	138	130									
Volume Left	188	0	49									
Volume Right	16	61	0									
cSH	666	1700	1440									
Volume to Capacity	0.31	0.08	0.03									
Queue Length 95th (ft)	32	0	3									
Control Delay (s)	12.8	0.0	3.0									
Lane LOS	В		Α									
Approach Delay (s)	12.8	0.0	3.0									
Approach LOS	₿											
Intersection Summary		<u>. </u>	<u> </u>	<u></u>	<u> </u>	<u>- </u>			· <u></u>	2.AC	م الم في المستقدر ضعر الما	All Line
Average Delay			6.3									
Intersection Capacity Utilization	ก		27.8%	10	U Level of	Service			Α			
Analysis Period (min)			15									

Overell LOS = 6.4 Je /Let + LOS A

	٠	-	*	•	←	4	4	†	/	\	↓	4
Movement	EBL	EBT	÷ 'ÈBR	WBL	.WBT	× WBR ≸	NBL	NBT	NBR	SBL	S SBT	SBR
Lane Configurations	240	4}		_		•	_	1>			4	
Volume (veh/h)	243	0	11	0	0	0	0	70	38	98	71	0
Sign Control		Stop			Stop			Free			Free	
Grade Peak Hour Factor	0.80	3% 0.25	0.69	0.92	0% 0.92	0.92	0.92	2% 0.86	0.62	0.60	-2%	0.00
Hourly flow rate (vph)	304	0.23	16	0.92	0.92	0.92	0.92	0.66 81	61	0.69 142	0.84 85	0.92 0
Pedestrians	J0 4	U	10	U	U	v	U	01	O1	142	65	U
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked							•					
vC, conflicting volume	481	511	85	481	481	112	85			143		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	481	511	85	481	481	112	85			143		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)							• •					
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	34	100	98	100	100	100	100			90		
cM capacity (veh/h)	459	422	955	453	439	946	1525			1434		
Direction Lane #	aEB.1∂	NB1≟		Take	思想	78	在他 点	《特别》		364	Tribe.	
Volume Total	320	143	227									
Volume Left	304	0	142									
Volume Right	16	61	0									
cSH	471	1700	1434									
Volume to Capacity	0.68	0.08	0.10									
Queue Length 95th (ft)	125	0	8									
Control Delay (s)	27.2	0.0	5.2									
Lane LOS	D 27.2	0.0	A 5.2									
Approach Delay (s) Approach LOS	21.2 D	0.0	3.2									
								to an appropriate and	A. a.c. A. P.	. Local track (1975)	noma, su consedérables	a teatric distances
Intersection Summary	以				(1) (1)			经政治的	机型影火线	440		MEEN!
Average Delay			14.3									
Intersection Capacity Utilization			36.6%	IC	U Level o	i Service			Α			
Analysis Period (min)			15									

Overall Los = 14.7 sec/vel = Los B

	٠	-	•	•	←	•	4	†	/	/	↓	4
Movement			微EBR _化	提WBL型	絕WBT 图	WBR	WNB 障	等NBT鑫	强NBR 工	SBL	S. SBT	寫SBR
Lane Configurations		4						₽			र्स	
Volume (veh/h)	156	0	12	0	0	0	0	69	39	35	71	0
Sign Control		Stop			Stop			Free			Free	
Grade	0.00	3%			0%	• • •		2%			-2%	
Peak Hour Factor	0.80	0.25	0.69	0.92	0.92	0.92	0.92	0.86	0.62	0.69	0.84	0.92
Hourly flow rate (vph)	195	0	17	0	0	0	0	80	63	51	85	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)								Nana			Mana	
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	298	329	85	298	298	112	85			143		
vC, conflicting volume vC1, stage 1 conf vol	290	329	00	290	290	112	QΩ			143		
vC1, stage 1 conf vol												
vCu, unblocked vol	298	329	85	298	298	112	85			143		
· ·	7.1	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, single (s) tC, 2 stage (s)	1.1	0.3	0.3	1.1	0.3	U.E	4.1			7.1		
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	69	100	98	100	100	100	100			96		
cM capacity (veh/h)	639	572	955	629	596	947	1525			1433		
					OOO Seekalara	oti Kandinasia	rozo Reserva	autorio de la	2017年	1400		
Direction, Lane # 5		_	SB15		eace and	港州。经长		NEW U	Hospital I	25 W 7 35	11/25/19	2466萬
Volume Total	212	143	135									
Volume Left	195	0	51									
Volume Right	17	63	0									
cSH	656	1700 0.08	1433 0.04									
Volume to Capacity	0.32 35											
Queue Length 95th (ft)		0.0	3 3.0									
Control Delay (s)	13.1	0.0	3.0 A									
Lane LOS	8 13.1	0.0	3.0									
Approach Delay (s) Approach LOS		0.0	3.0									
	В	o - Bestina cate				n hadron, lidrar	· ·	ar arkindlese	with white and picked and			andre extensión.
Intersection Summary	253,146				产的净原	5 98 19	在学生	的主要标	· STEEL			
Average Delay	_		6.5									
Intersection Capacity Utilizat	ion		28.4%	IC	U Level o	1 Service			A			
Analysis Period (min)			15									

Overall Los = 6.6 sec/vel = Los A

	٠	→	*	€	+	•	4	†	~	1		4
Movement	EBL.	IKEBT.	EBR	WBL)	WBT	AWBR 裔	NBL	國NBT 拿	NBR	SBL	SBT	SBR
Lane Configurations		4>	_					4		_	र्स	
Volume (veh/h)	249	0	12	0	0	0	·O	73	39	99	. 74	. :0
Sign Control		Stop			Stop			Free			Free	
Grade		3%	-		√0%	•		2%		:	2%	}
Peak Hour Factor	0.80	0.25	0.69	0.92	0.92	0.92	0.92	0.86	0.62	0.69	0.84	0.92
Hourly flow rate (vph)	311	0	17	0	0	.0	Ò.	85	63	143	88	.,0
Pedestrians												
Lane Width (ft)												•
Walking Speed (fl/s)												
Percent Blockage												
Right turn flare (veh)												_
Median type			. 13 Jr. 4.	No.		• 37		⊹None			None	£ 4, 2,
Median storage veh)				٠.								
Upstream signal (ft)					1.3		· ś.	.•		٠. ٠		į €/
pX, platoon unblocked	404	Enn		e Minata	CHANA.	- 14 8 C L	0033		ي د د). Namanan P	ور جو و ج	rter Maclante
vC; conflicting volume	491	-523	.88	`:491;`	. 1491	1116	≗88 ≵	· 1	. 4	¥148	Jaka a	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol vCu, unblocked vol	491	523	88	491	491	116	88			148		
tC/single (s)	7.1	6.5	- 6.3 _.		491 76:5 -					4:1	- :-	
tC, 2 stage (s)	4.1,	.0.5	· · · 0.5 _,	ii a	.0.0	"O;Z	: 9 .1			4.1		
(E/(s)	- 3.5	4:0	3.4	3.5	4.0	3.3	12.2		1 .	2.2		***
p0 queue free %	31	100	98	100	100	100	100			90		. · :=
cM capacity (veh/h)	451	415	1951	445	1433	941	1520	•				. 13.05
Direction, Lane #	I NEBIT				nel pasiestos							
Volume Total	329	<u>≆≅⊡⊍∌i≇</u> 148	232		- Land Hotel	Heritarie V	(1975年)(NSES-2	HAVE SEE	N To Your wines			er e
Volume Left	311	0	143									
Volume Right	17	<u>ქ63</u>										ائي رو چيد يي
cSH	464	1700	1428		٠. ت		•••			• •		er
Volume to Capacity	- 0.71 رز		∴ 10.10	B. 1868	أخليد فقده ترا	چو - د او لاراد م	 وفي الرائي					t de la companya de l
Queue Length 95th (ft)	137	. <u> </u>	د <u>برن برند.</u> 8	TO RESERVE	N. T. K.	egorial in ge	ាំ វី ១ជ	क्ट ऑड ज		· Line in	TO THE PARTY.	ক্রন্থেদর্মন
Control Delay (s)	29.5	_	- T	1. J. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	Crac b	ئارخىن ئا ئا	ناريخ سار عي	选择是 。				<u></u>
Lane LOS	2,5.0 D	- 0.0	A	a para da	. e- Maria of ma		1. 15			٠.		es established
Approach Delay (s)	29.5	0.0							•			
Approach LOS	D		,		•	•		•			•	
Intersection Summary												
Average Delay			15.4									
Intersection Capacity Utiliz	ation		37.2%	- 10	U-Level of	f:Service			·A			
Analysis Period (min)			15			-					•	4, 4

Overall LOS = 15.7 Sec/Let = LOS C

	۶	-	•	•	←	•	4	1	<i>></i>	-	ļ	4
Movemen	: EBL	EBT	EBR.	₩BL\	WBT.	≟WBR:	灣NBL達	器NBT 2	NBR.	SBL*	SBT.	SBR
Lane Configurations		€}						1 >			र्भ	<u></u>
Volume (veh/h)	131	0	4	0	0	0	0	76	39	64	70	0
Sign Control		Stop			Stop			Free			Free	
Grade		3%			0%			2%			-2%	
Peak Hour Factor	0.86	0.25	0.50	0.92	0.92	0.92	0.92	0.76	0.81	0.84	0.88	0.92
Hourly flow rate (vph) Pedestrians	152	0	8	0	0	0	0	100	48	76	80	0
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)								110.70			110110	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	356	380	80	356	356	124	80			148		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	356	380	80	356	356	124	80			148		
tC, single (s)	7.2	6.5	6.5	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s)	2.5	4.0	0.5	0.5		2.0	0.0			0.0		
tF (s)	3.5	4.0	3.5	3.5	4.0	3.3	2.2			2,3		
p0 queue free %	73	100 525	99	100	100	100	100			95		
cM capacity (veh/h)	569		920	573	542	932	1531			1397		
	的EB.1%			原列等是	EU							
Volume Total	160	148	156									
Volume Left	152	0	76									
Volume Right	8 500	48	4207									
cSH Volume to Congoity	580 0.28	1700 0.09	13 9 7 0.05									
Volume to Capacity Queue Length 95th (ft)	28	0.09	0.03 4									
Control Delay (s)	13.6	0.0	4.0									
Lane LOS	15.0 B	0.0	7.0 A									
Approach Delay (s)	13.6	0.0	4.0									
Approach LOS	В											
Intersection Summary	11.2. 2		<u></u>	de Address on Oracle								
Average Delay			6.0			· ·						
Intersection Capacity Utilizatio	n		28.1%	IC	U Level of	Service			Α			
Analysis Period (min)			15									

Overall LOS = 6.2 Je /Lek = LOS A

	۶		*	*	←	•	4	†	<i>*</i>	1	↓	-√
Movement was a second	X EBL	数ÉBT3	EBR	EWBL	⊒WBT ₩	WBR	⊗ NBL₂	全NBT 值	⊗ NBR ₽	S SBL	a SBT&	SBR
Lane Configurations		4						1→			4	
Volume (veh/h)	133	0	4	0	0	0	0	77	40	65	71	0
Sign Control		Stop			Stop			Free			Free	
Grade		3%			0%			2%			-2%	
Peak Hour Factor	0.86	0.25	0.50	0.92	0.92	0.92	0.92	0.76	0.81	0.84	0.88	0.92
Hourly flow rate (vph)	155	0	8	0	0	0	0	101	49	77	81	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right (urn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	204	200	0.4	204	204	400	04			454		
vC, conflicting volume	361	386	81	361	361	126	81			151		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol vCu, unblocked vol	201	386	0.4	204	201	400	04			151		
	361 7.2		81 6.5	361	361	126	81			151 4.2		
tC, single (s)	1.2	6.5	6.5	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s) tF (s)	3.5	4.0	3.5	3.5	4.0	3.3	2.2			2.3		
p0 queue free %	73	100	3. 3 99	100	100	3.3 100	100			2.3 94		
cM capacity (veh/h)	563	520	919	568	537	930	1530			1394		
				JUU Harananan	<i>JJ1</i> ==	30U managanan	HUQU Martingaring		The Edward Constitution	PCUI		
Direction, Lane # 57, A			響SB1祭							元约为		
Volume Total	163	151	158									
Volume Left	155	0	77									
Volume Right cSH	8	49	0									
Volume to Capacity	574	1700	1394									
. ,	0.28 29	0.09	0.06									
Queue Length 95th (ft)	2 9 13.7	0 0.0	4 4.0									
Control Delay (s) Lane LOS	13.7 B	0.0	4.0 A									
Approach Delay (s)	13.7	0.0	4.0									
Approach LOS	13.7 B	0.0	4.0									
The second secon	D Separati	· 64	a nadia (ini Universidante antico)	artification (1900)	tions of Physics will	~** ** ********	nar William and	Hilledone i decretación	ol. Tomas velteir	naint a restation were		et and and
Intersection Summary		《利益格》	在 ECC	是"山 龙	Ericky.	18.14	S. Walte	通過	的。臺灣	327	A PERIOD	是利服
Average Delay			6.1						_			
Intersection Capacity Utilization	1		28.3%	IC	U Level o	t Service			Α			
Analysis Period (min)			15									

Overall LOS = 6.2 10% LOS A

	•	>	*	•	←	•	4	†	<i>p</i>	\	↓	4
Movement Movement	₹¥EBL	EBT	<u>É</u> BR	∴WBL®	₩ BT 	WBR &	NBL:	這NBT 。	NBR	SBL	SBT	SBR
Lane Configurations		4						\$→			4	
Volume (veh/h)	241	0	4	0	0	0	0	81	40	140	75	0
Sign Control		Stop			Stop			Free			Free	
Grade		3%			0%			2%			-2%	
Peak Hour Factor	0.86	0.25	0.50	0.92	0.92	0.92	0.92	0,76	0.81	0.84	0.88	0.92
Hourly flow rate (vph)	280	0	8	0	0	0	0	107	49	167	85	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	550		0.5	550		404	0.5			450		
vC, conflicting volume	550	575	85	550	550	131	85			156		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol	550	<i></i>	0.5	550	F.C.0	404	0.5			450		
vCu, unblocked vol	550	575 0.5	85 6.5	550	550	131	85			156		
tC, single (s)	7.2	6.5	6.5	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s) tF (s)	3,5	4.0	3.5	3.5	4.0	3:3	2.2			2.3		
p0 queue free %	3,3 30	100	99	100	4.0 100	100	100			2.3 88		
cM capacity (veh/h)	400	379	914	404	392	924	1524			1388		
				404	J3∠ ::::::::::::::::::::::::::::::::::::	JZ4 Harana	IUZ4		metae arredo	IJOU		es the Post Real
Direction, Lane # 1		NB 1		A 182		No.						
Volume Total	288	156	252									
Volume Left	280	0	167									
Volume Right	8	49	0									
cSH Valuranta Cananita	407	1700	1388									
Volume to Capacity	0.71	0.09	0.12									
Queue Length 95th (ft)	134	0	10									
Control Delay (s)	32.7	0.0	5.6									
Lane LOS	D	0.0	A F.C									
Approach Delay (s) Approach LOS	32.7 D	0.0	5.6									
Intersection Summary		<u>.</u>	: -					1877 - 25 C. S.	y 60 mag	3.47 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Average Delay			15.6	_		-						
Intersection Capacity Utilizati	ion		42.0%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall LOS = 15.9 sec/vel = LOS C

	•	→	•	*	←	•	4	†	/	\	↓	1
	≵EBL	@∛EBT∦	EBR	WBL	WBT	₩BR	MINBLE	NBT	NBR 資	SBL.	SBT	SBR
Lane Configurations		↔						1			4	
Volume (veh/h)	139	0	4	0	0	0	0	81	41	68	74	C
Sign Control		Stop			Stop			Free			Free	
Grade		3%			0%			2%			-2%	
Peak Hour Factor	0.86	0.25	0.50	0.92	0. 9 2	0.92	0.92	0.76	0.81	0.84	0.88	0.92
Hourly flow rate (vph)	162	0	8	0	0	0	0	107	51	81	84	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC,,conflicting volume	378	403	84	378	378	132	84			157		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol	070	400		070	070	400				457		
vCu, unblocked vot	378	403	84	378	378	132	84			157		
tC, single (s)	7.2	6.5	6.5	7.1	6.5	6.2	4.1			4.2		
tC; 2 stage (s)	2.5	4.0	2 5	2.5	4.0	2.0	0.0			0.0		
tF (s)	3.5	4.0	3.5	3.5	4.0	3.3	2.2			2.3		
p0 queue free %	71 540	100	99	100	100	100	100			94		
cM capacity (veh/h)	548	507	915	552	525	923	1525			1387		
		NB 1					图学的					
Volume Total	170	157	165									
Volume Left	162	0	81									
Volume Right	8	51	0									
cSH	559	1700	1387									
Volume to Capacity	0.30	0.09	90.0									
Queue Length 95th (ft)	32	0	5									
Control Delay (s)	14.2	0.0	4.0									
Lane LOS	В		Α									
Approach Delay (s)	14.2	0.0	4.0									
Approach LOS	В											
Intersection Summary		1700000	强直强能			起表面	34.7 64					
Average Delay			6.3									
Intersection Capacity Utilization	1		32.4%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall LOS = 6.4 set/vek = LOS A

	۶	→	•	•	4 —	*	4	†	<i>></i>	\	↓	√
	汉EBE"		EBR!	WBL'	WBT	微WBR電	ENBLY		WNBR	SBL		SBR
Lane Configurations		€},		_		_	_	}			स्	_
Volume (veh/h)	247	0	4	0	0	0	0	85	41	143	_ 78	0
Sign Control		Stop			Stop			Free			Free	
Grade	0.00	3%	0.50	0.00	0%	0.00	2.00	2%	0.04		-2%	0.00
Peak Hour Factor	0.86	0.25	0.50	0.92	0.92	0.92	0.92	0.76	0.81	0.84	0.88	0.92
Hourly flow rate (vph) Pedestrians	287	0	8	0	0	0	0	112	51	170	89	. 0
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)								NONE			HOUG	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	566	592	89	566	566	137	89			162		
vC1, stage 1 conf voi	000	002	00	***	•••	101	00			, 42		
vC2, stage 2 conf vol												
vCu, unblocked vol	566	592	89	566	566	137	89			162		
tC, single (s)	7.2	6.5	6.5	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.5	3.5	4.0	3.3	2.2			2.3		
p0 queue free %	26	100	99	100	100	100	100			88		
cM capacity (veh/h)	389	370	910	393	382	917	1520			1381		
Direction Lane # 20 Control	EB 13	NB 12	· SB 1學	四為門		新春樓 和	304	多一个		4.图画	2 63	
Volume Total	295	162	259								_	
Volume Left	287	0	170									
Volume Right	8	51	0									
cSH	395	1700	1381									
Volume to Capacity	0.75	0.10	0.12									
Queue Length 95th (ft)	150	0	11									
Control Delay (s)	36.5	0.0	5.6									
Lane LOS	Ε		Α									
Approach Delay (s)	36:5	0.0	5.6									
Approach LOS	Е											
Intersection Summary			中华有些	学型								
Average Delay			17.1	_								
Intersection Capacity Utilization	l		42.9%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall LOS: 17.4 sec/ex = LOS C

-	•	→	—	-	•	•	4	<u>†</u>	/	<u> </u>	Ţ	4
Movement	EBL)	EBT	#EBR	W WBL	SWBT	WBR 書	ENBL	SANBTA	NBR	SBL	SBT	SBR
Lane Configurations		44		-				ĵ.			4	<u> </u>
Volume (veh/h)	84	0	3	0	0	0	0	45	19	51	-56	0
Sign Control		Stop			Stop			Free			Free	
Grade		3%			0%			2%			-2%	
Peak Hour Factor	0.84	0.25	0.38	0.92	0.92	0.92	0.92	0.80	0.68	0.85	0.70	0.92
Hourly flow rate (vph)	100	0	8	0	0	0	0	56	28	60	80	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh) Median type								None			None	
Median storage veh)								MOHE			None	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	270	284	80	270	270	70	80			84		
vC1, stage 1 conf vol			-		2,0					•		
vC2, stage 2 conf vol												
vCu, unblocked vol	270	284	80	270	270	70	80			84		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	100	99	100	100	100	100			96		
cM capacity (veh/h)	656	603	986	660	614	998	1531			1525		
Direction, Lane # 21 4 5 5 5	第 EB 引到	₩NB-1	SB1		中中的	LEAS						
Volume Total	108	84	140									
Volume Left	100	.0	60									
Volume Right	8	28	0									
cSH	672	1700	1525									
Volume to Capacity	0.16	0.05	0.04									
Queue Length 95th (ft)	14	0	3									
Control Delay (s)	11.4	0.0	3.4									
Lane LOS	В	0.0	Α									
Approach Delay (s)	11.4	0.0	3.4									
Approach LOS	В											-
Intersection Summary 2.2									自然的	E AND THE		
Average Delay			5.1						_			
Intersection Capacity Utilizat	ion		23.9%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall LOS = 5.3 sec/vel = LOS A

	٠	-+	•	•	←	•	•	†	<i>></i>	>	↓	4
Movement	₿EBL	EBT.		WBE	EWBT	WBR屏	製NBL	第NBT	NBR	源SBL	SBT.	SBR
Lane Configurations		4						₽			स	
Volume (veh/h)	85	0	3	0	0	0	0	46	19	52	57	0
Sign Control		Stop			Stop			Free			Free	
Grade		3%			0%			2%			-2%	
Peak Hour Factor	0.84	0.25	0.38	0.92	0.92	0.92	0.92	0.80	0.68	0.85	0.70	0.92
Hourly flow rate (vph)	101	0	8	0	0	0	٥	58	28	61	81	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked		600		075								
vC, conflicting volume	275	289	81	275	275	71	81			85		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol	075	000	0.4	075	075	7.4	^4			0.5		
vCu, unblocked vol	275	289	81	275	275	71	81			85		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	2.5	4.0	2.2	2 5	4.0	2.2	2.2			2.1		
tF (s)	3.5 84	4.0 100	3.3 99	3.5 100	4.0	3.3 100	2.2			2.2 96		
p0 queue free %		599	984	655	100 610	997	100			1524		
cM capacity (veh/h)	650				010	991	1529		* .	1024		ellend van 45° . h
Direction, Lane # 3455 (Carry			駅SB1層	生9.1					TANK		施計算	深文地
Volume Total	109	85	143									
Volume Left	101	0	61									
Volume Right	8	28	0									
cSH	667	1700	1524									
Volume to Capacity	0.16	0.05	0.04									
Queue Length 95th (ft)	15	0	3									
Control Delay (s)	11.5	0.0	3.4									
Lane LOS	В		A									
Approach Delay (s)	11.5	0.0	3.4									
Approach LOS	В											
Intersection Summary	make the sale		A. E. S				237		NA TE	经验		
Average Delay			5.1	_								
Intersection Capacity Utilizatio	n		24.1%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overell Los = 5.3 Sec/vel = Los A

	۶	→	*	€	—	•	•	1	/	\		4
Movement	EBL	EBT.	EBR	EWBL 等	WBT 图	WBR 纂	NBL#	愛NBT 型	NBR	SBL	#SBT	SBR
Lane Configurations		€}-						ᡗ→			र्स	
Volume (veh/h)	211	0	3	0	0	0	0	51	19	134	61	0
Sign Control		Stop			Stop			Free			Free	
Grade		3%			0%			2%			-2%	
Peak Hour Factor	0.84	0.25	0.38	0.92	0.92	0.92	0.92	0.80	0.68	0.85	0.70	0.92
Hourly flow rate (vph)	251	0	8	0	0	0	0	64	- 28	158	87	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	400	404	0.7	400	400	70	07			00		
vC, conflicting volume	480	494	87	480	480	78	87			92		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol	400	404	0.7	400	400	70	07			00		
vCu, unblocked vol	480	494	87	480	480	78 6.0	87			92		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	3.5	4.0	2.2	2.5	4.0	2.2	2.2			2.2		
tF (s)	3.5 44	4.0	3.3 99	3.5	4.0	3.3	2.2 100			90		
p0 queue free %		100	99 977	100	100	100				1516		
cM capacity (veh/h)	452	429	_	456	437	989	1522			1010		
Direction Lane #			SB.1	eur yn	TA HOLDER			海水 红		特別地		与数
Volume Total	259	92	245									
Volume Left	251	0	158									
Volume Right	8	28	0									
cSH	459	1700	1516									
Volume to Capacity	0.56	0.05	0.10									
Queue Length 95th (ft)	85	0	9									
Control Delay (s)	22.5	0.0	5.2									
Lane LOS	C	0.0	Α									
Approach Delay (s)	22.5	0.0	5.2									
Approach LOS	С											
Intersection Summary											技力器	
Average Delay			11.9						_			
Intersection Capacity Utilization	İ		35.8%	lС	U Level o	f Service			Α			
Analysis Period (min)			15									

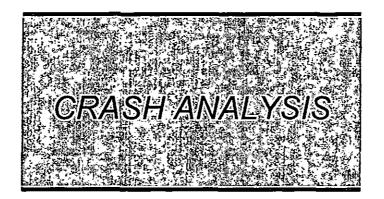
Overall Los: 12.2 sec/vel: Los B

	۶	-	•	•	←	•	4	1	/	/	↓	4
Movement	∵°EBL		EBR.	WBL"	WBT	WBR 学	NBL		NBR !	≫ SBL	SBT	₩SBR
Lane Configurations	0.0	₩.	•	_	•	_	_	1}•			4	_
Volume (veh/h)	89	0	3	0	0	0	0	_ 48	20	54	_ 59	0
Sign Control		Stop			Stop			Free			Free	
Grade	0.04	3%	0.00	0.00	0%	0.00		2%			-2%	0.00
Peak Hour Factor	0.84	0.25	0.38	0.92	0.92	0:92	0.92	0.80	0.68	0.85	0.70	0.92
Hourly flow rate (vph)	106	0	8	0	0	0	0	60	29	64	84	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	286	301	84	286	286	75	84			89		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol				000								
vCu, unblocked vol	286	301	84	286	286	75	84			89		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	0.5	4.0		0.5	4.0	0.0	0.0			0.0		
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	83 -	100	99	100	100	100	100			-96		
cM capacity (veh/h)	639	589	980	644	601	992	1525			1519		
Direction, Lane # 12 18	器EBIM		SB 148	100		HERE		经	學家語樂		4	
Volume Total	114	89	148						•			
Volume Left	106	0	64									
Volume Right	8	29	0									
cSH	655	1700	1519									
Volume to Capacity	0.17	0.05	0.04									
Queue Length 95th (ft)	16	0	3									
Control Delay (s)	11.7	0.0	3.4									
Lane LOS	В		Α									
Approach Delay (s)	11.7	0.0	3.4									
Approach LOS	В											
Intersection Summary					N. C.		389 00	推測的				
Average Delay			5.2									
Intersection Capacity Utilization	nc		24.5%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall Los. 5.4 server = Los A

	۶	→	•	•	←	*	4	†	*	\	ţ	4
Movement	SEBLA	第EBT	EBR.	圖WBL 编	運WBT 影	₩BR	NBL	認NBT 認	NBR	建SBL	SBT	ESBR
Lane Configurations		€}}						1>			4	
Volume (veh/h)	215	. 0	3	0	0	0	0	53	20	136	_ 63	0
Sign Control		Stop			Stop			Free			Free	
Grade	0.04	3%	0.00	0.00	0%	0.00	0.00	2%	0.00	0.05	-2%	0.00
Peak Hour Factor	0.84 256	0.25 0	0.38	0.92	0.92	0.92	0.92	0.80	0:68 29	0.85	0.70	0.92
Hourly flow rate (vph) Pedestrians	250	U	8	0	0	. 0	0	66	29	160	90	0
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	491	506	90	491	491	81	90			96		
vC1, stage 1 conf vol												
vC2; stage 2 conf vol												
vCu, unblocked vol	491	506	90	491	491	81	90			96		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	42	100	99	100	100	100	100			89		
cM capacity (veh/h)	443	422	973	448	430	985	1518			1511		
Direction, Lane # 500			於SB1多			in the	12.3					
Volume Total	264	96	250									
Volume Left	256	0	160									
Volume Right	8	29	0									
cSH	451	1700	1511									
Volume to Capacity	0.59	0.06	0.11									
Queue Length 95th (ft)	92	0	9									
Control Delay (s) Lane LOS	23.6 C	0.0	5.2 A									
Approach Delay (s)	23.6	0.0	5.2									
Approach LOS	23.0 C	0.0	J.4									
Intersection Summary			THE S									
Average Delay			12.4	<u>-</u>								
Intersection Capacity Utilization			36.3%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

Overall Los: 12.6 Jec/vel: Los B





Steve Austin

From:

Hunter, William [wihunter@state.pa.us] Wednesday, January 13, 2010 13:09

Sent: To:

Steve Austin

Subject:

log #9055 Crash Data Request

January 13, 2009

Mr. Steven D. Austin
Senior Traffic Technician
Transportation Resource Group, Inc.
204 North George Street
Suite 110
York, PA 17401
steveaustin@consulttrq.com

Re:

Crash Data - Cumberland Township, Adams County

CISAD Log No. 9055

Dear Mr. Austin:

Please note that there were no reportable crashes for a five year period starting from January 1, 2004 through December 31, 2008 for Emmitsburg Road (S.R. 3001) from Segment / Offset 0080 / 1038 to Segment / Offset 0090 / 0078 in Cumberland Township, Adams County and subsequently no reports were generated for it.

If you have any questions, please feel free to contact John Poremba at (717) 705-1471.

William G. Hunter | Crash Reporting Manager

PA Department of Transportation

Bureau of Highway Safety and Traffic Engineering

P O Box 2047 | Harrisburg, PA 17105-204入

Phone: 717-787-2855 | Fax: 717-783-8012

www.dot.state.pa.us

factor Johnson

Steve Austin

From:

Hunter, William [wihunter@state.pa.us]

Sent:

Tuesday, March 23, 2010 14:07

To:

Steve Austin

Subject:

log #9228 - Crash Data Request

March 23, 2010

Mr. Steven D. Austin Senior Traffic Technician Transportation Resource Group, Inc. 204 North George Street, Suite 110 York, PA 17401-1108 steveaustin@consulttrg.com

Re:

Crash Data - Freedom Township, Adams County

CISAD Log No. 9228

Dear Mr. Austin:

No crashes were found for Emmitsburg Road, from segment 0030 at offset 2974 through segment 0050 at offset 1290, for the five year period starting from January 1, 2005 through December 31, 2009. Consequently, no reports were generated.

If you have any questions, please feel free to contact Steve Fink at (717) 783-2295.

William G. Hunter | Crash Reporting Manager PA Department of Transportation Bureau of Highway Safety and Traffic Engineering P O Box 2047 | Harrisburg, PA 17105-2047 Phone: 717-787-2855 | Fax: 717-783-8012 www.dot.state.pa.us



Guidelines for Left Turn Treatments

Two-Lane Highway

Based on PennDOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

Project Number: 388.01

Location: Emmitsburg Road / Complex Driveway Scenario: 2012 Traffic Volumes with Development

Design Hour: PM Peak (Thursday)

Performed By: DJT

Date: 3/16/2010

Speed Limit: 40 mph
Terrain Type: Level
Signalized ?: No

Move	ment	Volume	Percent Trucks	PCEV	Left Turn Lane Warranted ?
	Left	29	0%	29	_
Advancing	Thru	111	1%	112	7
	Right	0	0%	0] No
	Left	0	0%	0	No
Opposing	Thru	115	1%	116	1
	Right	174	0%	174	

Advancing Volumes: 141 Left Turns: 29
Opposing Volumes: 290 Left Turn Percentage: 20.00%

		•	Speed	(MPH)		
Turns of Troffic Control	25 -	35	40	- 45	50 -	- 60
Type of Traffic Control		<u> </u>	Tum Dema	nd Volume		
<u></u>	High	_Low*_	High	Low*	High	Low*
Signalized	Α	Α	B or C **			
Unsignalized	A	Ā	C	В	B or C **	В

^{*} Low is considered 10% or less of approach traffic volume

^{**} Whichever is greater

	Condition A
Speed (MPH)	Storage Length
Any Speed	Length from Table 3
	Condition B
Speed (MPH)	Storage Length
40	75'
45	125'
50	175'
55	235'
60	295'
	Condition C
Speed (MPH)	Storage Length
40	61' + Additional length from Table 3
45	75' + Additional length from Table 3
50	93' + Additional length from Table 3
55	114' + Additional length from Table 3
60	131' + Additional length from Table 3

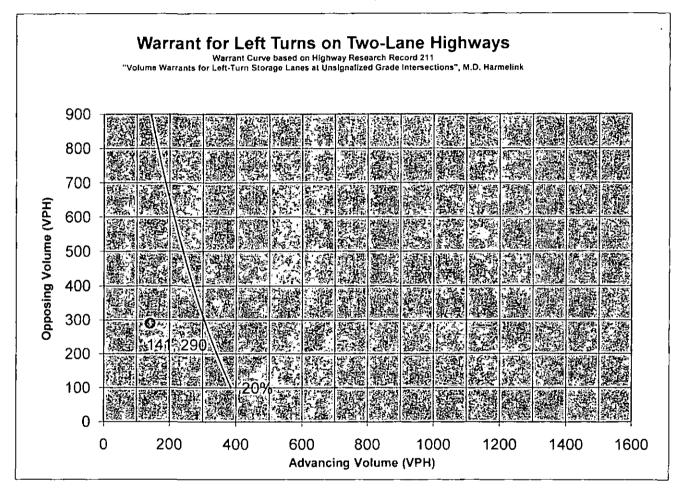


Based on PennOOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

Emmitsburg Road / Complex Driveway 2012 Traffic Volumes with Development

PM Peak (Thursday)

Warrant Graph



Storage Length Details

Turn Lane Warranted?	Condition A	Condition B	Condition C	Storage Length	Storage Length (Rounded to 25')
No					

A Left Turn Lane is not Warranted



Based on PennDOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

----- General Information

Project Number: 388.01

Location: Emmitsburg Road / Complex Driveway Scenario: 2017 Traffic Volumes with Development

Design Hour: PM Peak (Thursday) Speed Limit: 40 mph Terrain Type: Performed By: DJT Level

Date: 3/16/2010 Signalized ?: No

------ Volume & Warrant Details ------

Move	ment	Volume	Percent Trucks	PCEV	Left Turn Lane Warranted ?
	Left	30	0%	30	
Advancing	Thru	116	1%	117	
	Right	0	0%	0]
	Left	0	0%	0	No
Opposing	Thru	120	1%	121	1
	Right	174	0%	174	

Advancing Volumes: 147 Left Turns: Opposing Volumes: 295 Left Turn Percentage: 20.00%

------ Storage Length Calculations ------

30

			Speed	(MPH)		
Tune of Teeffie Control	25	- 35	40	- 45	50	- 60
Type of Traffic Control	Turn Demand Volume					
	High	Low*	High	Low*	High	Low*
Signalized	Α	Α	B or C **			
Unsignalized	Α	A	C	В	В ог С **	В

^{*} Low is considered 10% or less of approach traffic volume

^{**} Whichever is greater

	Condition A					
Speed (MPH)	Storage Length					
Any Speed	Length from Table 3					
	Condition B					
Speed (MPH)	Storage Length					
40	75'					
45	125'					
50	175'					
55	235'					
60	295'					
	Condition C					
Speed (MPH)	Storage Length					
40	61' + Additional length from Table 3					
45	75' + Additional length from Table 3					
50	93' + Additional length from Table 3					
55	114' + Additional length from Table 3					
60	131' + Additional length from Table 3					

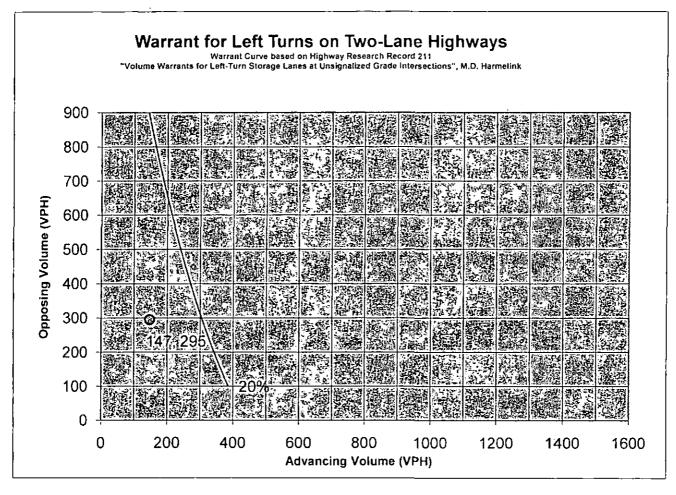


Based on PennDOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

Emmitsburg Road / Complex Driveway 2017 Traffic Volumes with Development

PM Peak (Thursday)

Warrant Graph ------



Storage Length Details ---

Turn Lane Warranted?	Condition A	Condition B	Condition C	Storage Length	Storage Length (Rounded to 25')
No					-

A Left Turn Lane is not Warranted



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Guidelines for Left Turn Treatments

Two-Lane Highway

Based on PennDOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

------ General Information ------

Project Number: 388.01

Location: Emmitsburg Road / Complex Driveway Scenario: 2012 Traffic Volumes with Development

Design Hour: PM Peak (Friday) Performed By: DJT

Date: 3/16/2010

Speed Limit:

40 mph

Terrain Type: Level Signalized ?:

No

Move	ement	Volume	Percent Trucks	PCEV	Left Turn Lane Warranted ?
	Left	40	0%	40	
Advancing	Thru	120	1%	121	
ĺ	Right	0	0%	0	No
	Left	0	0%	0	
Opposing	Thru	138	1%	139	
	Right	223	0%	223	L

Advancing Volumes: 161

Left Turns: 40

Opposing Volumes: 362

Left Turn Percentage: 20.00%

------ Storage Length Calculations ------

			Speed	(MPH)			
Turns of Traffia Constrai	25 -	35	40	- 45	50	- 60	
Type of Traffic Control —			Turn Demand Volume				
	High	Low*	High	Low*	High	Low*	
Signalized	Α	Α	B or C **	B or C **	B or C **	B or C **	
Unsignalized	A	A	С	В	B or C **	В	

^{*} Low is considered 10% or less of approach traffic volume

^{**} Whichever is greater

	Condition A						
Speed (MPH)	Storage Length						
Any Speed	Length from Table 3						
	Condition B						
Speed (MPH)	Storage Length						
40	75'						
45	125'						
50	175'						
55	235'						
60	295'						
	Condition C						
Speed (MPH)	Storage Length						
40	61' + Additional length from Table 3						
45	75' + Additional length from Table 3						
50	93' + Additional length from Table 3						
55	114' + Additional length from Table 3						
60	131' + Additional length from Table 3						

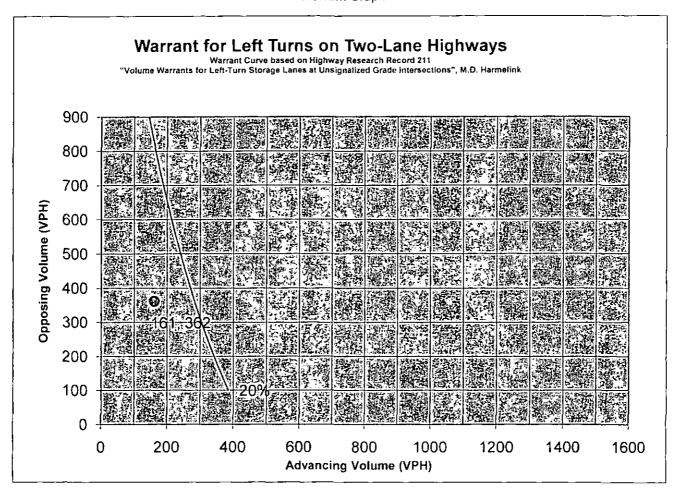


Based on PennOOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

Emmitsburg Road / Complex Driveway 2012 Traffic Volumes with Development

PM Peak (Friday)

Warrant Graph



Storage Length Details

Turn Lane Warranted?	Condition A	Condition B	Condition C	Storage Length	Storage Length (Rounded to 25')
No					

A Left Turn Lane is not Warranted



Guidelines for Left Turn Treatments

Two-Lane Highway

Based on PennDOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

Project Number: 388.01

Location: Emmitsburg Road / Complex Driveway Scenario: 2017 Traffic Volumes with Development

Design Hour: PM Peak (Friday)

Performed By: DJT

Date: 3/16/2010

Speed Limit: 40 mph
Terrain Type: Level
Signalized ?: No

------ Volume & Warrant Details ------

Mover	nent	Volume	Percent Trucks	PCEV	Left Turn Lane Warranted ?	
	Left	41	0%	41		
Advancing	Thru	125	1%	126	1	
Ī	Right	0	0%	0	1	
	Left	0	0%	0	No	
Opposing	Thru	144	1%	145]	
	Right	225	0%	225	1	

Advancing Volumes: 167 Left Turns: 41
Opposing Volumes: 370 Left Turn Percentage: 20.00%

----- Storage Length Calculations ------

			Speed	(MPH)		
Tune of Teeffin Control	25	- 35	40	- 45	50	- 60
Type of Traffic Control			Turn Dema	nd Volume		
	High	Low*	High	Low*	High	Low*
Signalized	Α	Α .	B or C **			
Unsignalized	Α	Α	C	В	B or C **	В

^{*} Low is considered 10% or less of approach traffic volume

^{**} Whichever is greater

	Condition A			
Speed (MPH)	Storage Length			
Any Speed	Length from Table 3			
	Condition B			
Speed (MPH)	Storage Length			
40	75'			
45	125'			
50	175'			
55	235'			
60	295'			
	Condition C			
Speed (MPH) Storage Length				
40	61' + Additional length from Table 3			
45	75' + Additional length from Table 3			
50	93' + Additional length from Table 3			
55	114' + Additional length from Table 3			
60	131' + Additional length from Table 3			

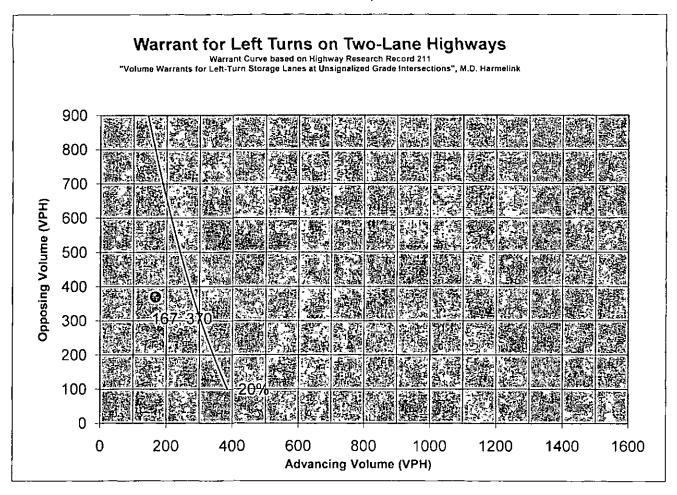


Based on PennOOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

Emmitsburg Road / Complex Driveway 2017 Traffic Volumes with Development

PM Peak (Friday)

Warrant Graph



Storage Length Details

Turn Lane Warranted?	Condition A	Condition B	Condition C	Storage Length	Storage Length (Rounded to 25')
No					

A Left Turn Lane is not Warranted



Guidelines for Left Turn Treatments

Two-Lane Highway

Based on PennDOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

------ General Information

Project Number: 388.01

Location: Emmitsburg Road / Complex Driveway Scenario: 2012 Traffic Volumes with Development

Design Hour: Saturday Peak Speed Limit: 40 mph
Performed By: DJT Terrain Type: Level
Date: 3/16/2010 Signalized ?: No

------ Volume & Warrant Details -----

Movement		Volume	Percent Trucks	PCEV	Left Turn Lane Warranted ?
Advancing	Left	38	0%	38	
	Thru	137	1%	138	
ļ	Right	0	0%	0	No
Opposing	Left	0	0%	0	No
	Thru	101	1%	102	
	Right	236	0%	236	

Advancing Volumes: 176 Left Turns: 38

Opposing Volumes: 338 Left Turn Percentage: 20.00%

------ Storage Length Calculations ------

	Speed (MPH)					
Tune of Treffic Comtrel	25 - 35		40 - 45		50 - 60	
Type of Traffic Control	Turn Demand Volume					
	High	Low*	High	Low*	High	Low*
Signalized	A	Α	B or C **			
Unsignafized	A	Α	С	В	B or C **	В

^{*} Low is considered 10% or less of approach traffic volume

^{**} Whichever is greater

	Condition A			
Speed (MPH)	Storage Length			
Any Speed	Length from Table 3			
	Condition B			
Speed (MPH)	Storage Length			
40	75'			
45	125'			
50	175'			
55	235'			
60	295'			
	Condition C			
Speed (MPH)	Storage Length			
40	61' + Additional length from Table 3			
45	75' + Additional length from Table 3			
50	93' + Additional length from Table 3			
55	114' + Additional length from Table 3			
60	131' + Additional length from Table 3			

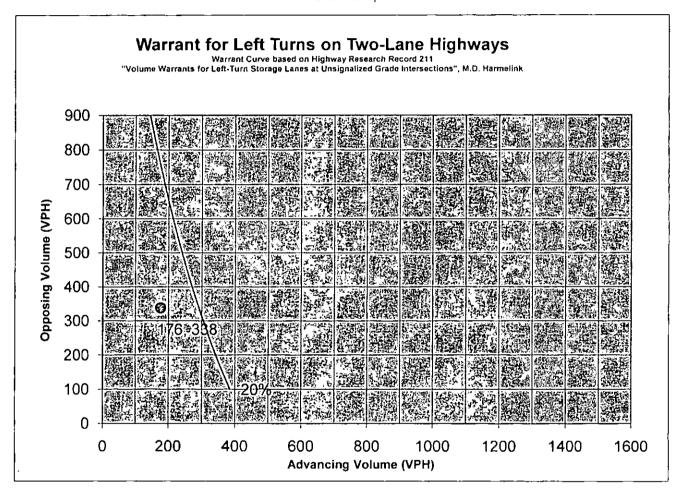


Based on PennDOT Publication 46, Chapter 11.17.4 & 11.17.5
"Turn Lane Warrants" & "Turn Lane Storage Length"

Emmitsburg Road / Complex Driveway 2012 Traffic Volumes with Development

Saturday Peak

Warrant Graph ----



Storage Length Details

Turn Lane Warranted?	Condition A	Condition B	Condition C	Storage Length	Storage Length (Rounded to 25')
No					

A Left Turn Lane is not Warranted



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Guidelines for Left Turn Treatments

Two-Lane Highway

Based on PennDOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

Project Number: 388.01

Location: Emmitsburg Road / Complex Driveway Scenario: 2017 Traffic Volumes with Development

Design Hour: Saturday Peak Speed Limit: 40 mph
Performed By: DJT Terrain Type: Level
Date: 3/16/2010 Signalized ?: No

------ Volume & Warrant Details

Move	Movement		Percent Trucks	PCEV	Left Turn Lane Warranted ?	
	Left	39	0%	39		
Advancing	Thru	143	1%	144		
	Right	0	0%	0	No	
	Left	0	0%	0	No	
Opposing	Thru	105	1%	106		
	Right	237	0%	237		

Advancing Volumes: 183 Left Turns: 39
Opposing Volumes: 343 Left Turn Percentage: 20.00%

Type of Traffic Control	_	Speed (MPH)									
	25	50	50 - 60								
			Turn Dema	nd Volume							
	High	Low*	High	Low*	High	Low*					
Signalized	Α	Α	B or C **	BorC**	BorC**	B or C **					
Unsignalized	A	Α	С	В	B or C **	В					

^{*} Low is considered 10% or less of approach traffic volume

^{**} Whichever is greater

	Condition A
Speed (MPH)	Storage Length
Any Speed	Length from Table 3
	Condition B
Speed (MPH)	Storage Length
40	75'
45	125'
50	175'
55	235'
60	295'
	Condition C
Speed (MPH)	Storage Length
40	61' + Additional length from Table 3
45	75' + Additional length from Table 3
50	93' + Additional length from Table 3
55	114' + Additional length from Table 3
60	131' + Additional length from Table 3



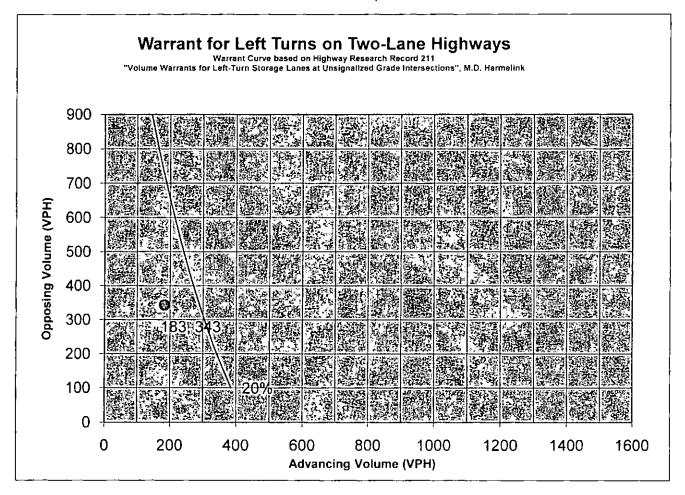
Guidelines for Left Turn Treatments Two-Lane Highway

Based on PennDOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

Emmitsburg Road / Complex Driveway 2017 Traffic Volumes with Development

Saturday Peak

Warrant Graph



Storage Length Details

Turn Lane Warranted?	Condition A	Condition B	Condition C	Storage Length	Storage Length (Rounded to 25')
No			•		_

A Left Turn Lane is not Warranted



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Guidelines for Right Turn Treatments

Two-Lane Highway

Based on PennDOT Publication 46, Chapter 11.17.4 & 11.17.5 "Turn Lane Warrants" & "Turn Lane Storage Length"

------ General Information

Project Number: 388,1

Location: Emmitsburg Road / Complex Driveway

Performed By: DJT

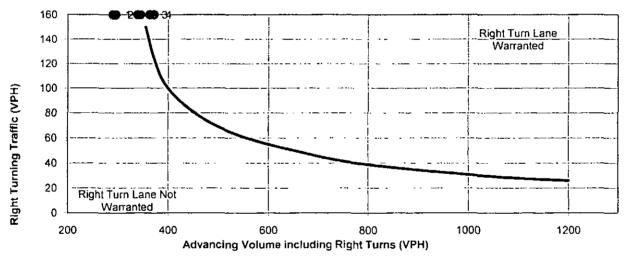
Date: 3/16/2010

40 mph Speed Limit: Terrain Type: Level

Signalized ?: No

	Scenario / Peak Hour		Approach Pl	-1∨		% Trucks	PCEV Total	PCEV Right	
			Thru	Right	Left	Thru	Right	Approach	Turns
1	2012 Traffic Volumes with Development - PM (Thurs)	0	115	174	0%	1%	1%	290	175
2	2017 Traffic Volumes with Development - PM (Thurs)	0	120	174	0%	1%	1%	295	175
3	2012 Traffic Volumes with Development - PM (Fri)	0	138	223	0%	1%	1%	363	224
4	2017 Traffic Volumes with Development - PM (Fri)	0	144	225	0%	1%	1%	371	226
5	2012 Traffic Volumes with Development - Sat	0	101	236	0%	1%	1%	339	237
6	2017 Traffic Volumes with Development - Sat	0	105	237	0%	1%	1%	344	238

Figure 9. Warrant for Right Turn Lanes on Two-Lane Roadways (40 mph or lower speeds, unsignalized and signalized intersections)

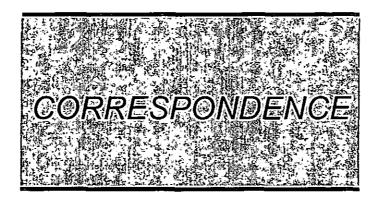


Storage Length Calculations

Scenario	Turn Lane Warranted?	Condition A	Condition B	Condition C	Storage Length	Storage Length (Rounded to 25')
1	No					
2	No					<u> </u>
3	Yes	175	75	236	236	250
4	Yes	175	75	236	236	250
5	No			-		
6	_No					

Results









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MEETING NOTES

MEETING:

Proposed Mason-Dixon Resort and Casino

Transportation Impact Study (TIS) Scoping Meeting

Cumberland Township, Adams County

TRG Project No. 388.01

LOCATION:

PennDOT District 8-0, Franklin Room

DATE OF MEETING:

April 29, 2010

TIME:

10:00 AM

ATTENDEES:

Mazhar Malik, PennDOT 8-0 Eric Kinard, PennDOT 8-0

Charles Trapp, PennDOT 8-0

Florence Ford, Cumberland Township

Jodie Evans, McMahon Associates, Inc. (Township Traffic Engineer)
Dan Thornton, Transportation Resource Group, Inc (TRG)

DISTRIBUTION:

All Attendees

David LeVan, Mason-Dixon Resorts, LLC Bernard Yannetti, Hartman & Yannetti

PREPARED BY:

Daniel J. Thornton, P.E., TRG, Inc.

TODAY'S DATE:

May 5, 2010

This meeting was held to discuss the proposed Mason-Dixon Resorts and Casino Development located in Cumberland Township, Adams County. After introductions, the following is a summary of the discussions.

• Dan Thornton gave a brief overview of the proposed project. Currently on site is the All-Star Family Fun and Sports Complex located to the east of Emmitsburg Road (S.R.3001) in Cumberland Township, Adams County. Access to the existing building is provided by a driveway off of Emmitsburg Road (S.R.3001) to the south of Barlow Greenmount Road (S.R.3006). The proposed development is to renovate the existing building to provide a casino with 600 slots and 50 table games. The access will continue to be provided off of Emmitsburg Road.

- Dan Thornton explained that a traffic impact study has been completed for the proposed development. Based on the scoping letters that were reviewed by Cumberland Township and PennDOT, the following intersections were analyzed in the study:
 - Emmitsburg Road (S.R.3001)/Barlow Greenmount Road (S.R.3006)
 - Emmitsburg Road (S.R.3001)/Existing Resort Driveway
 - Emmitsburg Road (S.R.3001)/U.S. Route 15 Southbound Ramps (2)
 - Emmitsburg Road (S.R.3001)/U.S. Route 15 Northbound Ramps
- Flo Ford and Jodie Evans explained that the Township does have concerns that traffic oriented from the north along U.S. Route 15 will utilize the Taneytown Road interchange with U.S. Route 15 instead of continuing to the Emmitsburg Road interchange. PennDOT agreed that GPS units and map software may recommend motorists traveling to the site from the north to use the Taneytown Road interchange. Dan Thornton explained that while using the Taneytown interchange and Knight Road seems like it may be shorter and faster, in reality using the Emmitsburg Road interchange will be faster since Knight Road is not a straight shot but has many curves and lower speeds. The following action items were decided to address the Township's and PennDOT's concerns with site traffic using the Taneytown Road interchange:
 - Once the development is approved and ready for construction, the developer should contact the GPS companies to try to get the directions to state using the Emmitsburg Road interchange with U.S. Route 15.
 - Highway signage along U.S. Route 15 should be investigated to try to direct motorists to the Emmitsburg Road interchange with U.S. Route 15.
 - Traffic counts will be conducted at the following intersections in May or early June 2010:
 - Taneytown Road/U.\$. Route 15 Northbound Ramps
 - Taneytown Road/U.S. Route 15 Southbound Ramps
 - Taneytown Road/Knight Road
 - Emmitsburg Road/Knight Road
 - Emmitsburg Road/U.S. Route 15 Northbound Ramps
 - Emmitsburg Road/U.S. Route 15 Southbound Ramps

These intersections will only be counted but not analyzed as part of the initial traffic impact study. The Emmitsburg Road interchange with U.S. Route 15 is being counted to compare the counts to the January and February counts that were already conducted.

Traffic counts at the study intersections will need to be recounted as a follow-up study after the proposed casino has been constructed. The follow-up traffic counts will be conducted either in the May or September after the proposed development has been fully constructed. If the counts are significantly higher

Meeting Notes May 5, 2010 Page 3

(more than 10% difference) than expected in the approved traffic impact study, a new study will be required to determine the impacts and any improvements, if necessary.

- Eric Kinard asked about the analysis for the Emmitsburg Road interchange with U.S. Route 15 and if the interchange is in Cumberland Township. Flo stated that the interchange was outside the Township and was in Freedom Township. Eric required that Freedom Township be contacted regarding the proposed project. Dan Thornton stated that he will contact Freedom Township and will make sure that the Township receives a copy of the traffic impact study when it is submitted to the Department.
- Dan Thornton explained that as part of the analysis already completed, improvements are required at the Emmitsburg Road/Existing Resort Driveway intersection as part of the proposed development. A northbound right turn lane on Emmitsburg Road is not warranted but since the majority of the site traffic is anticipated from U.S. Route 15, the developer has agreed to install a northbound right turn lane. Also, a traffic signal is warranted in the opening year 2012 with the proposed development at this intersection during the Saturday peak hour. An HOP will be required for the proposed improvements. Mazhar Malik stated that he can include the follow-up study requirement in the condition statement and that he can keep the HOP open until the follow-up study has been completed and approved by the Township and PennDOT.

There being no further discussions, this segment of the meeting adjourned. If there are any additions or corrections to these meetings notes, please notify the writer within five days of your receipt of these meeting notes.



March 19, 2010

RECEIVED

MAR 2 4 2010

TRG

Daniel J. Thornton, P. E. Transportation Resource Group, Inc. 204 North George Street Suite 110 York, PA 17401-1108

> Adams Co.-Cumberland Twp. Emmitsburg Rd. (SR 3001)/(Bus 15), Seg.: 0080 Mason-Dixon Resort & Casino Scope of Study

Dear Mr. Thornton:

We have received your letter regarding the locations you have chosen to study for the proposed development at the subject location.

We concur with the locations you have chosen. However, you may need to modify the scope of traffic impact study to include all intersections where the proposed development is projected to generate 100 or more new trips during the peak hour. Scope must include the driveway(s) for possible turn lanes.

If you have any further questions regarding this matter, please contact Eric Kinard of the District Traffic Unit at 717-787-9237.

Very truly yours,

for:

Tucker Ferguson, P. E. District Executive

CHT/sab (cht0319i)

cc: Office of Planning & Zoning, Cumberland Township



204 N. George Street, Suite 110 • York, PA 17401-1108 • T: (717) 846-4660 • F: (717) 846-4858 • www.consulttrg.com

February 17, 2010

Mr. Mazhar Malik Permit Manager PennDOT District 8-0 2140 Herr Street Harrisburg, PA 17103

RE: Proposed Mason Dixon Resort and Casino
Transportation Impact Study (TIS) Scoping Meeting
Cumberland Township, Adams County
TRG Project No. 388.01.H.01

Dear Mr. Malik:

On behalf of Mason-Dixon Resorts, LLC, Transportation Resource Group, Inc. is requesting a TIS Scoping Meeting to discuss the proposed Mason Dixon Resort and Casino located in Cumberland Township, Adams County. The site is proposed at the All-Star Family Fun & Sports Complex located to the east of Emmittsburg Road (S.R.3001). TRG has prepared the TIS Scoping Meeting Application in accordance with the procedures outlined in PennDOT Strike-Off letter 470-09-4 dated February 12, 2009. We are requesting a meeting with PennDOT to discuss the proposed development and site access. Please let me know when the meeting is scheduled. If you have any questions, please feel free to give me a call.

Very truly yours,

Transportation Resource Group, Inc.

Daniel J. Thornton, P.E.

Senior Associate

DJT/vaw

cc: Richard Deen, P.E., PennDOT District 8-0 Traffic Unit

David M. LeVan, Mason-Dixon Resorts, LLC

Bernard A. Yannetti, Jr., Esquire, Hartman & Yannetti Florence Ford, Township Manager, Cumberland Township

Timothy R. Knoebel, P.E., KPI Technology

Jodie Evans, P.E., PTOE, McMahon Associates, Inc.

TRANSPORTATION IMPACT STUDY (TIS) SCOPING MEETING APPLICATION

Scoping Meeting Date: To be determined
Applicant: Mason-Dixon Resorts, LLC
Applicant's Consultant: TRG - Daniel J. Thornton, P.E. (dthornton@consulttrg.com)
Applicant's Primary Contact: <u>David LeVan (dlevan@comcast.net)</u>
(Attach a list of meeting attendees along with phone numbers and email addresses)
(1) LOCATION OF PROPOSED DEVELOPMENT: (Attach location map if available)
PennDOT Engineering Dist.: 8 0 County: Adams
Municipality: Cumberland Township
State Route(s) (SR): Emmitsburg Road (S.R.3001)
Segment(s): Offset(s):
Refer to the attached site location map.
(2) DESCRIPTION OF PROPOSED DEVELOPMENT: (Attach site plan if available)
Currently on site is the Eisenhower Inn and Conference Center and the All-Star Family Fun & Sports Complex. Access to the existing facilities is provided by an existing ful movement driveway on Emmitsburg Road (S.R.3001) to the south of Barlow Greenmount Road. As part of the proposed development, the All-Star Family Fun building is proposed to be converted to a casino. The size of the building will not change but will be renovated to accommodate the casino's need. The casino is proposed to have 600 slots and 50 table games at this time. Access to the proposed casino will continue to be provided by the full movement driveway on Emmitsburg Road (S.R.3001). An aerial of the tract of land is attached for your reference.
Site access: Existing full movement access to Emmittsburg Road (S.R.3001).
Proposed Land Use: Casino with 600 slots and 50 table games.
Community Linkages access to neighboring properties, cross easements, pedestrian
and transit accommodation): There are no proposed community linkages for this site.
The land use context for this area is Rural Community Arterial.

•										
(3) DEVEL	OPMEN	T SCHE	DULE A	ND STA	GING:	•				
		Opening t Date: _		2012	- .					
Des	cribe Pr	oposed (Develop	ment Sc	:hedule/	Staging:				
The	propose	ed develo	opment	will be b	uilt in or	e phase	•			
(4) TRIP G Trip		Tri No site	p Gene n-ITE π es of the	ration Ma nethods i e same la	anual ur must be and use	iless PEI	NNDOT i ified bas I size.)	approve ed on si	s anothe	neers (ITE) er source. of multiple
	_ ITE	Γrip Gen	eration	Manual.						
X List land de additional s	Attac The I used velopme	TE article to deterr ent and to	ation fo e "Trip C nine the rip gene	r non-ITI Generation trip generation in tration in	on Chara eration. formatio	acteristic Copies n, as app developn	of the IT propriate	E article . <i>If nece</i>	are atta	
			(M			nd Casino) ·			A
Land Use	PM Pea	k Hour (Th	ursday)	PM Pe	eak Hour (I	-riday)	Satur	day Peak	Hour	Average Weekday
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Daily Traffic
Casino (600 slots)	186	168	354	216	198	414	252	216	468	5,958
(5) ESTIMA	(a)	Estimat ccess Pa	ed Daily oint and ay Class	y Trip Ge I Full Bui	eneration Ildout/Od Based d	of Prop ccupancy on Trip G	osed De	velopme e Tract:_ n and O	ent As <u>5,958</u> tr ine Acce	ips/day
		Low Vo	lume:			Hi	ah Volur	ne: X	(

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(6) TRAFFIC II	MPACT STUDY REQ	UIRED BASED O	N PENNDOT GUIDELINES?
No _ <u>X</u> Ye	s, based on:	X 3,000 or n	nore vehicle trips/day generated
		(added) ve	y one-hour time period, 100 or more new hicle trips generated entering or 100 or (added) vehicle trips generated exiting nt
		Other cons	siderations as described below:
(7) TRAFFIC II	MPACT ASSESMENT	REQUIRED?	_No Yes
_	ired, the following sec pplicant may provide		dist will be discussed at the TIS Scoping ation.
(8) TIS STU	JDY AREA: (Describe	; attach map and/o	or diagram)
• En • En		3001)/Existing Driv 3001)/Cunninghar 3001)/US Route 1	veway
(9) STUDY ARI	EA TYPE: Ur	ban <u>X</u>	Rural
are existing cor with developme	iditions, 15 years in th	e future without de mes for each perio	ds and times. Normal analysis periods evelopment, and 15 years in the future od are the AM peak hour, the PM peak
Weekda	y Thursday PM Peak y Friday PM Peak Hou d Saturday Peak Hou	ur between 4:00 a	nd 7:00 PM
(11) TRAFFIC A	ADJUSTMENT FACTO	ORS:	
·(a) S	easonal Adjustment: ((Identify counts re	quiring adjustment and methodology)
Т	he counts will be seas	sonally adjusted us	sing PennDOT Traffic Data Report.

Source

(b) Annual Base Traffic Growth: 0.86 %/yr compounded PennDOT

(c) Pass-By Trips: (Attach justification where required)

N/A

(d) Captured Trips for Multi-Use Sites: (List % and manner of application. Attach justification where required.)

N/A

(e) Other Adjustments:

(12) OTHER PROJECTS WITHIN STUDY AREA TO BE ADDED TO BASE TRAFFIC: (Identify proposed developments with issued permits that need to be included.)

To be determined by PennDOT and Cumberland Township.

(13) TRIP DISTRIBUTION AND ASSIGNMENT: (Describe; explain/justify; attach diagram and related information.)

Cordon Line Methodology & Marketing Analysis

(14) REQUIRED TRAFFIC COUNTS:

Turning movement counts will be conducted at the study intersections.

(15) CAPACITY/LOS ANALYSES:

Synchro 7.0 will be utilized to conduct the capacity analysis at the study intersections.

(16) ROADWAY IMPROVEMENTS/MODIFICATIONS BY OTHERS TO BE INCLUDED: (Projects programmed for construction or other developments with issued permits.)

To be determined by PennDOT and Cumberland Township.

(17) OTHER NEEDED ANALYSES:

(a) Sight Distance Analyses: (Required for all site access driveways; identify other locations.)

Sight distance will be measured at the existing access on Emmitsburg Road (S.R.3001).

(b) Signal Warrant Analysis: (Identify locations)

- Emmitsburg Road (S.R.3001)/Existing Access
- (c) Required Signal Phasing/Timing Modifications: (Determine for all signalized intersections; specify methodology.)

N/A

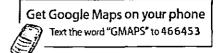
- (d) Traffic Signal Corridor/Network Analyses: (Identify locations/methodology)

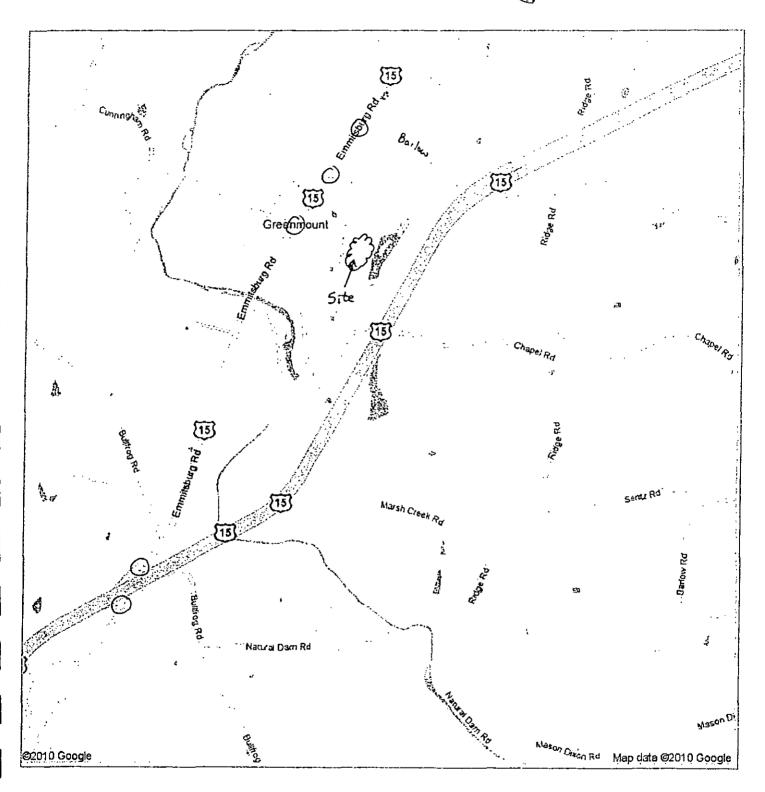
 N/A
- (e) Analyses of the Need for Turning Lanes: (Identify locations/methodology)
 - Emmitsburg Road (S.R.3001)/Existing Access
- (f) Turning Lane Lengths: (Identify methodology to be used)

 Per PennDOT guidelines
- (g) Left Turn Signal Phasing Analyses: (Identify locations/methodology)N/A
- (h) Queuing Analyses: (Identify locations and methodology)N/A
- (i) Gap Studies: (Identify locations and methodology)

 N/A
- (j) Accident Analyses: (Identify locations)At the study intersections.
- (k) Weaving Analyses: (Identify locations)N/A
- Other Required Studies: (Specify location and methodology)N/A
- (18) ADDITIONAL COMMENTS OR RECOMMENDATIONS RELATIVE TO THE SCOPE OF THE TIS:

Google maps





O - Study interections



204 N. George Street, Suite 110 • York, PA 17401-1108 • T: (717) 846-4660 • F: (717) 846-4858 • www.consulttrg.com
January 27, 2010

Ms. Florence Ford, Manager Cumberland Township 1370 Fairfield Road Gettysburg, PA 17325

Re: Mason-Dixon Resorts, LLC
Mason-Dixon Resort and Casino
Traffic Impact Study Scoping Letter
Cumberland Township, Adams County
TRG Project No. 388.01

Dear Ms. Ford:

This letter summarizes the proposed traffic impact study scope for the proposed Mason-Dixon Resort and Casino located to the east of Emmitsburg Road (S.R.3001) in Cumberland Township, Adams County. Currently on site is the Eisenhower Inn and Conference Center and the All-Star Family Fun & Sports Complex. Access to the existing facilities is provided by an existing full movement driveway on Emmitsburg Road (S.R.3001) to the south of Barlow Greenmount Road.

As part of the proposed development, the All-Star Family Fun building is proposed to be converted to a casino. The size of the building will not change but will be renovated to accommodate the casino's need. The casino is proposed to have 600 slots and 50 table games at this time. Access to the proposed casino will continue to be provided by the full movement driveway on Emmitsburg Road (S.R.3001). An aerial of the tract of land is attached for your reference.

As part of the traffic impact study, we are proposing the following study scope:

Study Intersections

Emmitsburg Road (S.R.3001)/Existing Driveway

Trip Generation

The trip generation for the site was determined based on an ITE article "Trip Generation Characteristics of Small to Medium Sized Casinos". A copy of the ITE article is attached. The article describes the trip generation for five small to medium casinos that had slots and tables. The casinos in the article had more slots than the proposed Mason-Dixon Resorts and Casino will have but the total number of tables are comparative. Therefore, the trip generation rates

Ms. Florence Ford January 27, 2010 Page 2

included in the article will be utilized to determine the anticipated traffic for the proposed casino. Based on the information in the article, the Adjacent Street Peak Hour Trip Generation table will be utilized for the PM peak hour (Thursday) and the Facility Peak Hour Trip Generation table will be utilized for the PM peak hour (Friday) and for the Saturday peak hour. A table is attached that summarizes the anticipated trip generation.

Due to the existing Eisenhower Inn and Conference Center located on the site as well, an internal capture will be assumed from the hotel to the proposed casino. While ITE Trip Generation Handbook does not have an internal capture percentage between lodging and recreational, it was assumed that 2% of the trips to/from the proposed casino will be from the existing Eisenhower Hotel and will never leave the site. The attached trip generation table shows the proposed internal capture for the proposed casino.

Trip Distribution

Trip distribution will be determined based on the existing turning movement counts (TMC) conducted at the site access intersection. Copies of the existing traffic counts are attached. The anticipated trip distribution will be assumed as follows:

- 55% oriented to/from the north on Emmitsburg Road (S.R.3001)
- 45% oriented to/from the south on Emmitsburg Road (S.R.3001)

A sketch is attached that shows the anticipated trip distribution and assignment for the proposed casino.

Study Time Periods

The study periods for analysis are proposed as follows:

•	Weekday Thursday PM Peak Hour	3:00 - 6:00 PM
٠	Weekday Friday PM Peak Hour	4:00 - 7:00 PM
٠	Saturday Peak Hour	12:00 - 3:00 PM

The traffic counts were conducted in January 2010 and will be seasonally factored using guidelines from PennDOT Traffic Data. Copies of the seasonal factors are attached. Automatic traffic recorder (ATR) counts will also be conducted on Emmitsburg Road (S.R.3001) and the existing driveway.

Analysis Scenarios

The following analysis scenarios are proposed based on an opening year of 2011 and a 5 year design period:

- Existing traffic volumes
- 2011 traffic volumes without development
 - 2011 traffic volumes with development
 - 2016 traffic volumes without development
 - 2016 traffic volumes with development

Ms. Florence Ford January 27, 2010 Page 3

The background growth rate factor will be determined based on PennDOT's Growth Factors for July 2009 to July 2010. For this development, the growth rate factor is 0.86% per year.

Please review the attached information and respond in writing with your required scope of work. We are also requesting any developments and/or committed roadway improvements within our study area that the Township will require to be included in the Traffic Impact Analysis for the proposed development.

If you have any questions, please feel free to give me a call.

Very truly yours,

Transportation Resource Group, Inc.

Daniel J. Thornton, P.E.

Senior Associate

DJT/vaw Attachments

cc: David LeVan, Mason-Dixon Resorts, LLC

Bernard A. Yannetti, Jr., Esquire, Hartman & Yannetti

Timothy R. Knoebel, P.E., KPI Technology

Jodie Evans, P.E., PTOE, McMahon Associates, Inc.



Trip Generation Characteristics of Small to Medium Sized Casinos

Michael Trueblood, Tara Gude

OVERVIEW

This paper focuses on trip generation for small to medium sized casinos that are not part of a cluster of casinos. The data collection for this paper included three casinos located in Council Bluffs, Iowa. Two of the casinos are riverboat casinos and are located along the Missouri River, while the other casino includes an existing dog racetrack that later added slot machines.

In addition to the casinos located in Council Bluffs, the calculated trip generation rates were compared to rates included in a March 1998 ITE Journal article entitled *Gaming Casino Traffic*. The article calculated trip generation rates for two casinos in the St. Louis metropolitan area, the Casino Queen and the St. Charles Casino.

There is not an overwhelming amount of trip generation information available for casinos located outside of the typical Las Vegas or Atlantic City stereotype. The trip generation characteristics of casinos found in large clusters, like those in Las Vegas for example, are not similar to the casinos that will be covered in this article. For comparison purposes the MGM Grand Casino in Las Vegas has over 5,000 hotel rooms with over 3,500 slot machines, while the Treasure Island Casino has over 2,900 hotel rooms with over 2,000 slot machines. The trip generation characteristics of these casinos are quite different than the five covered in this paper due to their immense size and popularity. Another reason these casinos have different trip generation characteristics is because they are accessible by foot. In Las Vegas people tend to walk to and from the casinos or drive to one and then walk to several others throughout the course of a day.

It should be noted that each state has different rules and regulations that govern the actual type of establishment that can be used for gambling. Recent regulations have changed or have been modified in order to allow gambling facilities to be established beyond the typical riverboat casinos. Examples of these casinos are those operated by Indian Tribes. There are several casinos operated by Indian Tribes across the country. These casinos range in size, but they are good examples of the types of casinos this paper addresses.

LOCATION OF CASINOS

This section will provide a brief overview of the location of the three Council Bluffs casinos and the two casinos located in the St. Louis metropolitan area. The casino locations are shown in Figure 1. The three casinos in Council Bluffs, Iowa are located near the Missouri River in the Omaha metropolitan area. The Ameristar Casino and Harvey's Casino are located along the river within one mile of each other in the northwest quadrant of the I-29/I-80 interchange. Bluffs Run Casino is located about two miles east of these casinos along I-80. For comparison purposes to other casino locations, the 1998 average daily traffic (ADT) along I-29 was 40,500 vehicles, while the 1998 ADT along I-80 was 67,400 vehicles. The estimated 1999 population is 1,040,000 people within a 50-mile radius of the casinos.

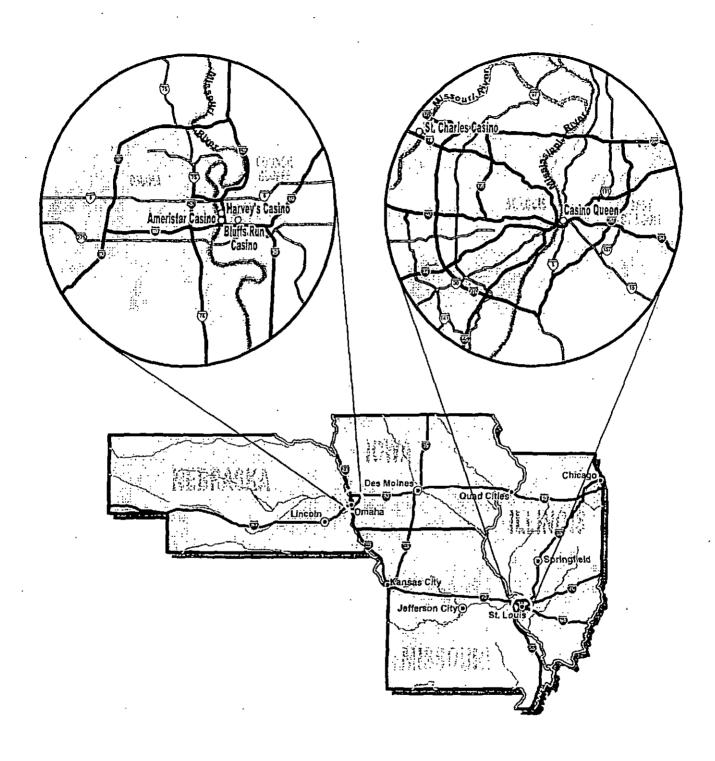


Figure 1 - Casino Location Map

The two St. Louis area casinos are also depicted in Figure 1. The St. Charles Casino is located along the Missouri River immediately north of I-70/Missouri River junction and about five miles to the west of I-270/I-70 junction in the City of St. Charles. The 1998 ADT along I-70 was 188,000 vehicles. The Casino Queen is located along the Mississippi River immediately east of the Gateway Arch and immediately north of the I-70/I-64/I-55 junction in the City of East St. Louis, Illinois. The ADT of these three interstates are 117,300 vehicles. The estimated 1999 population is 2,637,000 people within a 50-mile radius of the St. Louis area casinos.

GAMING REVENUES OF STUDY CASINOS

This section discusses the gaming revenues of the tri-state region where the five casinos presented in this paper are located. Between the years 1994-1999, St. Charles Casino had the second highest attendance of the eleven riverboat casinos within the state of Missouri. During the fiscal year 2000 the eleven riverboat casinos made over \$1.0 billion in adjusted gross revenues (AGRs). In Illinois, the nine riverboat casinos made over \$1.66 billion AGRs in 2000, with the Casino Queen ranked fifth out of the nine riverboats. In Iowa, Harvey's Casino and Ameristar Casino ranked one and two of out ten casinos in AGRs, respectively. The ten casinos in Iowa combined for over \$575 million in AGRs. Casinos within the State of Iowa that also have pari-mutuel wagering are accounted for separately in terms of their AGRs. Bluffs Run Casino was ranked two out of three casinos in AGRs. The three racetrack casinos, as they are called in Iowa, combined for over \$300 million in AGRs in 2000.

TRIP GENERATION CHARACTERISTICS OF STUDY CASINOS

Most of the available information concerning trip generation of casinos is related to large casinos or clusters of several casinos, such as those in Las Vegas. In order to determine the trip generation characteristics of small to medium sized casinos, HDR collected traffic information at three casinos in Council Bluffs, Iowa. Once the trip generation rates were computed, they were compared to trip generation rates of two St. Louis area casinos documented in a March 1998 issue of the ITE Journal.

Table 1 documents the five casinos' characteristics. It should be noted that the information for the Council Bluffs casinos is for the year 2000, while the information for the St. Louis casinos was collected in 1998.

Table 1 - General Casino Information

Amenities	Cou	ncil Bluffs,	Iowa	St. Louis Metro Area			
Amentics	Harvey's Ameristar Bluffs Run		St. Charles	Casino Queen			
Slots	1169	1446	1479	1847	1020		
Total Tables	53	51	0	90	51		
Gaming sq. ft.	28,250	38,000	34,280	50,000	27,500		
Hotel Rooms	251	356	0	Not Applicable	Not Applicable		
Employees	1257	1329	1046	Not Available	1079		
Pari-mutuel Wagering	No	No	Yes	No	No		
Convention Center (seats)	900	170	No	Not Available	Not Available		

The data collection for the Council Bluffs casinos was conducted during the following times:

- Ameristar Saturday, July 15th to Tuesday, July 25th, 2000.
- Harvey's Thursday, July 20th to Sunday, July 30th, 2000.
- Bluffs Run Wednesday, July 19th to Saturday, July 29th and Saturday August 19th to Monday August 28th, 2000.

Automatic tube recorders were placed at all entrances and exits to the casinos. Data was collected in fifteen-minute intervals, 24-hours a day for each of the casinos. All five casinos operated on a 24-hour basis. As will be discussed later, the hourly information was unique when compared to other land uses. The following sections provide detailed information on the trip generation characteristics of the three Council Bluffs casinos. These rates were compared to the two St. Louis casinos and since the rates for all five casinos were similar, an average trip generation rate was computed.

Peak Hour Trip Generation Rates

A trip generation rate was calculated based on the number of slot machines that were located at each casino. Generation rates were calculated for both weekdays and weekends. Weekday trip generation rates were calculated for both the peak of facility and peak of adjacent street traffic. Traffic studies for new developments generally analyze the weekday peak hour of adjacent street traffic. However, several types of developments generate higher traffic levels during times other than the adjacent street traffic peak hour. Data from the casinos indicate that their peak trip generation rates are different than the peak hour of adjacent street traffic. Table 2 depicts the average PM peak hour trip generation rates of the five casinos for the peak hour of facility, while Table 3 depicts the average PM peak hour trip generation rate for the adjacent street traffic. The PM peak hour was chosen for purposes of calculating trip generation rates because they were generally higher than the AM peak hour. Tables A1, A2, and A3 located at the end of the paper document the three Iowa casinos daily raw peak hour and time of day data.

Table 2 - Facility Peak Hour Trip Generation

					PM Pe	ak Houi	,				Average	PM Peak
	Har	vey's	Ame	ristar	Bluff	's Run	St. C	harles	Casino	Queen	Ноц	r Trips
	In	Out	In	Out	ln	Out	lπ	Out	ln	Out	In	Out
Monday - Friday	502	380	423	477	537	491	725	625	348	336	507	462
Saturday/Sunday	482	375	624	471	553	579	850	750	Not Av	ailable	627	544
				PM	Peak H	our Per	Slot				Average	PM Peak
	Har	vey's	Ате	ristar	Bluff	s Run	St. C	harles	Casino	Queen	Hour Tri	ps Per Slot
<u>, </u>	In	Out	In	Out	In	Out	In	Out	ln	Out	In	Out
Monday - Friday	0.43	0.33	0.29	0.33	0.36	0.33	0.39	0.34	0.34	0.33	- 0.36	0.33
Saturday/Sunday	0.41	0.32	0.43	0.33	0.37	0.39	0.46	0.41	Not Av	ailable	0.42	0.36

Note: St Charles weekday rate is for Friday only.

Table 3 - Adjacent Street Peak Hour Trip Generation

			•		PM Pe	ak Hou	Γ				Averag	e PM Peak
	Har	Harvey's		Ameristar Bluffs Ru		s Run	St. Charles		Casino Queer		Hour Trips	
	In	Out	In	Out	In	Out	In	Out	ln	Out	În	Out
Monday - Friday	453	340	427	378	442	373	475	600	Not A	vailable	4 49	423
Saturday/Sunday	423	334	491	413	490	467	Not Av	ailable	Not As	vailable	468	404
	1			PM	Peak H	our Per	Slot				Average	PM Peak
	Har	vey's	Ame	ristar	Bluff	s Run	St. C	harles	Casino	Queen	Hour Tr	ips Per Slot
	ln	Out	In	Out	In	Out	ln	Out	In	Out	In	Out
Monday - Friday	0.39	0.29	0.29	0.26	0.30	0.25	0.26	0.32	Not Av	ailable	0.31	0.28
Saturday/Sunday	0.36	0.29	0.34	0.29	0.33	0.32	Not Av	ailable	Not Av	ailable	0.34	0.30

Note: St. Charles weekday rate is for Friday only.

The PM peak hour trip generation rates were similar for each of the three Council Bluffs casinos. These rates were found to be comparable to the two St. Louis area casinos' trip generation rates. As shown above in Table 3, there is a correlation between the number of slot machines and the traffic generated by the casinos. For example, the two St. Louis area casinos have a difference in the number of trips generated by the facility. However when the trip generation rates were developed on a per slot machine basis, the rates are quite similar. Even though the St. Charles Casino has 800 slot machines more than the Casino Queen, their trip generation rates are comparable.

HDR's analysis of the five casinos in St. Louis and Council Bluffs found that their average weekday PM peak hour of adjacent street traffic trip generation rate was 0.59 trips per slot machine, while the average weekend PM peak hour trip generation rate was 0.64 trips per slot machine. These rates were close to the weekday and weekend PM peak hour of generator, which were 0.69 trips and 0.78 trips per slot machine, respectively.

The original trip generation rates calculated for the St. Louis area casinos were based on gaming positions. For purposes of this paper the rates provided in the March ITE Journal article were converted to trips per slot machine. This was done in order to directly compare the Council Bluffs and St. Louis trip generation rates. Gaming positions are calculated based on each type of game and are a percentage of the number of slot machines. Thus, calculating the number of gaming positions can get cumbersome. The other reason slot machines were used to calculate trip generation rates was because Bluffs Run Casino does not have table games.

Daily Trip Generation Rates

Table 4 shows the ADTs that were collected for the three Iowa casinos. An average daily trip rate was developed based on information from the three Iowa casinos and from the St. Charles Casino. Not enough information was available in order to include the Casino Queen in these calculations. Table 5 shows the weekday and weekend daily trip rates for each of the four casinos in addition to an average daily trip rate.

Table 4 - Average Daily Traffic (ADT)

	Harvey's Daily Volume			Ameris	tar Daily Vo	lume	Bluffs Run Daily Volume		
	Inbound	Outbound	ADT	Inbound	Outbound	ADT	Inbound	Outbound	ADT
Day	Volume	Volume		Volume	Volume		Volume	Volume	
Sunday	7,038	6,749	13,787	7,438	8,175	15,613	8,871	8,887	17,758
Monday	5,402	4,745	10,147	5,378	5,394	10,771	6,665	6,741	13,406
Tuesday	9,334	8,496	17,830	6,903	6,761	13,663	7,702	7,180	14,882
Wednesday	6,401	5,221	11,622	5,823	5,730	11,553	7,499	6,827	14,326
Thursday	6,944	5,462	12,406	5,845	5,703	11,548	8,494	7,867	16,361
Friday	8,230	5,938	14,168	8,043	7,460	15,503	9,211	8,441	17,652
Saturday	8,075	7,025	15,100	8,311	8,129	16,440	9,957	9,392	19,349

Table 5 - Average Daily Traffic Rates

			ADT		ADT per slot				Average
	Harvey's	Ameristar	Bluffs Run	St. Charles	Harvey's	Ameristar	Bluffs Run	St. Charles	ADT per slot
Monday - Friday	13,249	12,496	15,325	17,362	11.33	8.64	10.36	9.40	9.93
Saturday/Sunday	14,443	16,026	18,554	19,959	12.36	11.08	12.54	10.81	11.70

Note: St. Charles weekday rate is for Friday only.

The ADT was higher on weekend days compared to weekdays. As shown in Table 4 there was more than a 50% increase in the ADT on weekends at some of the casinos. Another interesting factor that made relatively large increases in ADT was the special promotions that the casinos offer. For example, Harvey's Casino had double points for slot club members on Tuesdays, which generated more traffic than a typical weekend day. Double points allow slot club members to earn extra points that can be redeemed for cash.

Another finding of interest was the amount of traffic that occurs during the late night hours. It was assumed that this was related to the fact that all five casinos evaluated in this paper were located within a metropolitan area and relatively close to an interstate. Table 6 documents the time variation of trips at the three Council Bluffs casinos and the St. Charles Casino. Again, data was not available for Casino Queen.

Table 6 - Casino Related Time Variations of Trips

		Percentage of Traffic during each time period										
ll l	Harvey's		Ameristar		Bluffs Run		St. Charles		Average			
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend		
9 AM - 9 PM	64.6	58.4	69.0	61.9	66.1	59.5	65.7	69.5	66.3	62.3		
9 PM - 9 AM	35.4	41.6	31.0	38.1	33.9	40.5	34.3	30.5	33.6	37.7		
12 AM - 6 AM	10.9	17.9	9.2	16.2	10.9	17.4	13.8	9.0	11.2	15.1		
6 AM - 12 PM	21.0	19.6	20.7	17.3	23.1	20.8	15.8	19.0	20.1	19.2		
12 PM - 6 PM	34.3	31.2	37.9	32.3	34.7	31.7	34.6	33.6	35.4	32.2		
6 PM - 12 AM	33.8	31.3	32.3	34.1	31.3	30.1	35.8	38.4	33.3	33.5		

Generally, most land uses do not operate on a 24-hour basis. As a result, roadways located near these casinos tend to have more traffic on them during the late night hours. The daily trip information is important because it captures some of the impacts related to off-peak traffic levels. This could lead to potential concerns of nearby residents or business owners. If the location of a potential casino was proposed near a neighborhood, the future casino could cause lighting, noise, or other environmental concerns. Our data shows some justification to these concerns over late-night traffic. Typically between the hours of 12:00 AM and 6:00 AM most land uses are not in operation and thus do not generate trips. These four casinos, on the other hand, averaged over 15% of their daily trips during these same hours. This could lead to potential complaints by nearby residents or businesses.

SUMMARY

This paper included the trip generation rates of three Iowa casinos and compared their rates to that of two St. Louis casinos included in a March 1998 ITE Journal article. In general, the five casinos had comparable trip generation rates for both weekdays and weekends. These rates could be used when determining the viability of a proposed casino or the expansion of an existing casino. As always, data collected at or near the actual casino site should be used, but if this is not possible, these rates could provide for a relative comparison of whether the nearby roadways could handle the increase in traffic due to the casino.

HDR's analysis of the five casinos found that their average weekday PM peak hour of adjacent street traffic trip generation rate was 0.59 trips per slot machine, while the average weekend PM peak hour trip generation rate was 0.64 trips per slot machine. These rates were close to the weekday and weekend PM peak hour of generator, which were 0.69 trips and 0.78 trips per slot machine, respectively. The average weekday ADT was 9.93 trips per slot, while the weekend average ADT was 11.70 trips per slot.

It should also be noted that these casinos could be considered isolated in terms of walking from one to another. The generation rates of casinos that are found in clusters (Las Vegas) have different characteristics than the casinos studied in this paper. This can be related to the large number and size of casinos located within the clusters and the fact that they are generally located very close to each other. Another important piece of information that should be reviewed is a market analysis. A market analysis could give an estimate of the daily admissions expected at the casino. This could give an indication if these rates are applicable to the proposed casino. As with all land uses, variations in trip generation rates will exist, but knowing what the potential traffic impact could be is better than not having any comparative information.

Authors Information

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Table A1 - Harvey's Peak Hour Raw Data

		A	M Peak Ho	ur]	PM Peak Ho	ur
Day	_ Date	Time	Inbound Volume	Outbound Volume	Time	Inbound Volume	Outbound Volume
Thursday	7/20/00	11:00	358	209	6:00	458	317
Friday	7/21/00	10:45	323	252	5:00	548	387
Saturday	7/22/00	10:00	285	273	5:30	591	380
Sunday	7/23/00	11:00	433	265	3:30	409	462
Monday	7/24/00	10:45	280	208	4:30	347	279
Tuesday	7/25/00	11:00	562	469	6:00	715	606
Wednesday	7/26/00	10:45	320	203	5:00	440	352
Thursday	7/27/00	11:00	362	263	6:00	493	319
Friday	7/28/00	10:45	412	179	5:30	512	403
Saturday	7/29/00	11:00	304	256	5:00	518	317
Sunday	7/30/00	11:00	345	271	3:15	410	342

Table A2 – Ameristar Peak Hour Raw Data

		A	M Peak Ho	ur	P	M Peak Ho	ur
ji i			Inbound	Outbound		Inbound	Outbound
Day	Date	Time	Volume	Volume	Time	Volume	Volume_
Saturday	7/15/00	10:30	363	240	5:30	596	420
Sunday	7/16/00	11:00	379	388	6:00	609	543
Monday	7/17/00	10:45	248	282	3:15	314	435
Tuesday	7/18/00	11:00	430	287	3:00	463	637
Wednesday	7/19/00	10:45	340	230	5:30	429	334
Thursday	7/20/00	10:45	356	228	3:00	349	471
Friday	7/21/00	11:00	364	283	5:45	662	44]
Saturday	7/22/00	11:00	370	265	5:45	700	461
Sunday	7/23/00	11:00	409	351	5:45	592	461
Monday	7/24/00	10:45	299	289	3:15	319	462
Tuesday	7/25/00	11:00	458	343	3:00	427	557

Table A3 - Bluffs Run Peak Hour Raw Data

	A	M Peak Ho	ur	1	PM Peak Hour			
Day	Time	Inbound Volume	Outbound Volume	Time	Inbound Volume	Outbound Volume		
Monday	11:00	348	420	15:00	443	416		
Tuesday	10:45	436	393	15:00	549	513		
Wednesday	11:00	417	310	15:00	542	474		
Thursday	10:45	425	370	15:30	571	507		
Friday	11:00	406	379	15:30	580	544		
Saturday	11:00	478	361	16:00	486	635		
Sunday	10:15	423	378	15:00	620	523		

	Saturday Peak Hour	Nepsky N	Exit Total Daily Traffic		212 450		9 5958	216 468	
	S		Enter		247		ഗ	252	_
	ay)		Total		406		89	414	
Table 1 Estimated Trip Generation (Mason-Dixon Resort and Casino)	PM Peak Hour (Friday)		Ţ.		194		4	198	
Tabi Estimated Tri	PM		Enter		212		4	216	
٤		,	Total		347		~	354	
	PM Peak Hour (Thursday)	eak Hour (Thur			165		က	168	
	PM P	natar	Cilia	9	182		4	186	
	Tvne			14	Man	Internalization	2%	lotal	
	Land Use	(Code)				Casino	(600 slats)		



204 North George Street Suite 110

York, PA 17401 (717) 846-4660

File Name : 3880111 Site Code : 03880101 Start Date : 1/14/2010

Page No : I

Location:Emmitsburg Rd / Eisenhower Drwy
Municipality: Cumberland Twp.
Day: Thursday
Counter: Steve

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

	··· ····· · · · ;	Emmitsburg Road (S		venicies - Trucks, senhower/Allstar		I railers. Emmitsburg Road	(S D 3001)	
	;	Southbound		Westbound		Northbou		
T	Start Time	Thru	Left .	Right	Left	Right	Thru	Int. Total
	15:00	19	2	ò	4		15	41
	15:15	21	i;	3	1 2	2	20	48
	15:30	16	3 '	6	2	0 .	23	50
	15:45	23	F ¹	11	5	1	16	57
	Total	79	7.	20	12	. 4	74	196
	16:00	19	3	2	3	4	17	48
	· 16:15 :	11	4	2	4	l l	20	42
1	16:30	17	3	J	1	4	15	' 41
	16:45	27	2	1	2.	0	29	. 61
	Total !	74	12]	6	10	9	81	192
	17:00	21	3.	f	0	1	25	51
	17:15	23	1 :	1	2	1	23	51
	17:30	24	3	2	l -	4	21	55
	17:45	14	2	0	1,	10	19	46
	Total	82	9 .	4	4	16	88	203
-	Grand Total	235	28	30	26	29	243	- 591
_	Apprch %	89.4	10.6 i	53.6	46.4	10.7	89.3	
	Total %	39.8	4.7	<u>.5.</u> 1	4.4	4.9	41.1	
	Passenger Vehicles	233	28	30	26	29	241	587
	% Passenger Vehicles	99.1	100	100	100.	100	99.2	. 99.3
	Trucks, Buses	2	0	0	0 ;	Ô	2	4
	% Trucks, Buses	0.9	.0	0.	0 :	0	0.8	0.7
	Tractor Trailers	0	0	0	0	0	0	0
	% Tractor Trailers :	0	0	0	0	0	0	0



204 North George Street Suite 110

Location:Emmitsburg Rd / Eisenhower Drwy

York, PA 17401

Municipality: Cumberland Twp.

(717) 846-4660

Day: Thursday

File Name : 3880111 Site Code : 03880101 Start Date : 1/14/2010

Counter: Steve

Page No : 1

— ,, , , , , , , , , , , , , , , , , ,	Gro	oups Printed-	Trucks, Buses - Tra	ctor Trailers			
:	Emmitsburg Road (S.I	R.3001) · 1	Eisenhower / Allstar l	Driveway	Emmitsburg Road (S.R.3001)	
· · · · · · · · · · · · · · · · · · ·	Southbound		Westbound		Northbound	d .	
Start Time	lanı:	Left	Right	Left :	Right	Thru	Int. Total
15:00 ;	0	0	0	0	0	1	1
. 15:30	1	0 ·	0	0	0	0	1.
Total	····-· ; ; ····	0 1	0	0	0	1	2
16:00	0	0	0	0	0	t	. 1
16:45 Total	1	<u>.</u> 0 : .	0	0:	0	0.	1
			•	-	-	·	_
Grand Total	2	0 .	0	0	0	2	4
Appreh %	100	D	D	0	0	100	
Total %	50	0	0	0	0	50	
Trucks, Buses	2	0 :	0	o ·	0	2	4
% Trucks, Buses	100	0 !	. 0	0	0	100	100
Tractor Trailers	0	0	0	0	0	0	0
% Tractor Trailers	0	0 :	0	0	0	0	0



Transportation Resource Group, Inc. 204 North George Street Suite 110

204 North George Street Suite 110 York, PA 17401 (717) 846-4660

File Name : 3880111 Site Code : 03880101 Start Date : 1/14/2010

Page No : 2

<u> </u>		rg Road (S.	R.3001)		er / Allstar E Westbound	riveway		irg Road (S lorthbound	•	
Start Time	Thru:	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	int. Total
Peak Hour Analysis From 15:	00 to 17:45 -	Peak I of i				//				
Peak Hour for Entire Intersect	tion Begins at	16:45								
16:45	27	2	29	ļ	2	3	0	29	29	61
17:00 !	21	3	24 ·	1	0	1	1	25	26	51
17:15	23	!	24	1	2	3	1	23	24	51
17:30	24	3	27	2	1	3	4	21	. 25	55
Total Volume	95	·	104	5	5	. 10	6	98	104	218
% App. Total :	91.3	8.7	•	50	50		5.8	94.2		
PHF	.880	.750	.897	.625	.625	.833	.375	.845	.897	.893

Emmitsburg Road (S.R.3001) Out In Total 103 104 207 95 9 Thru Left		
Peak Hour Data North Peak Hour Begins at 16:45 Passenger Vehicles Trucks, Buses Tractor Trailers	Right Left	Elsenhower / Allstar Orlveway Out 'In Total 15 10 25
Thru Right 98] 6 100 104 204 Out In Total Emmitsburg Road (S.R. 3001)	: : :	



204 North George Street Suite 110

York, PA 17401 (717) 846-4660

Municipality: Cumberland Twp.
Day: Friday
Counter: Steve

Location: Emmitsburg Rd / Eisenhower Drw

File Name : 3880112 Site Code : 03880102 Start Date : 1/15/2010

Page No : 1

Groups Printed- Passenger Vehicles - Trucks, Buses - Tractor Trailers

			er venicies - I rucks, i				
- : , ;	Emmitsburg Road (S		Eisenhower / Allstar		Emmitsburg Road (S.R.3001)	
<u>_</u>	Southbound	1	Westbound	Ì	Northboun	d	
Start Time ,	Thru	Left	Right	Left	Right	Thru	Int. Total
16:00	18	3 `	i	. 1	Ś	31	59
* 16:15)	- 23	3	4	1	8	31	70
16:30	30	2	1	0 .	8	33	74
16:45	32	8 .	2	1	4	23	70
Total;	103	16	8	3	25	118	273
17:00 :	20	4	3	. 2	5	23	57
17:15 [21	6	4	2	7	22	62
17:30 !	23	ľ '	2	0 :	4	29	59
17:45	23	7	0	1:	6	27 .	64
Total	87	18	9	5	22	101	242
18:00	21	4:	2	2	7	16	52
18:15	13	2	1	2 ·	1	15	34
18:30	21	3	3	1	8	24	60
18:45	. 14	2.:	1	0	8	12 [. 37
Total	69	D.	7	5	24	67 .	183
Grand Total	259	45	24	13	71	286	698
Apprch %	85.2	14.8	64.9	35.1	19.9	80 .1	
Total % j	37.1	6.4	3.4	1.9	10.2	41	
Passenger Vehicles	258	45	24	13 -	71	285	696
% Passenger Vehicles	99.6	100	100	100	100	99.7 _.	99.7
Trucks, Buses	0	Ö,	0	0 :	0	1	1
% Trucks, Buses	0	0 .	0	0 1	0	0.3	0.1
Tractor Trailers	1	0 ,	0	Ò	0	0	1
% Tractor Trailers	0.4	0,	0	0	0	0	0.1



204 North George Street Suite 110

Location: Emmitsburg Rd / Eisenhower Drw

York, PA 17401

Municipality: Cumberland Twp. Day: Friday

(717) 846-4660

File Name : 3880112 Site Code : 03880102

Start Date : 1/15/2010

Counter: Steve

Page No : 1

L	Gro	ups Printed- 7	Frucks, Buses - Tracto	r Trailers			
, , , , , , , , , , , , , , , , , , , ,	Emmitsburg Road (S.R		senhower / Allstar Dri		Emmitsburg Road (S		
i 	Southbound		Westbound		Northbound		
Start Time	Thru ;	Left :	Right	Left	Right	Thru	Int. Total
16:00	0	0,	0	0	0	L	ŀ
Total	0	, O :	Ó	0.	0	1	1
17:15	1	0:	0	0	0	0	1
Total ;	· ï	ο.	0	0	0	0	1
Grand Total	1	0 4	0	0.	0	I	2
. Appreh %	100	Ō	0	0	0	100	
Total %	50	. 0:	0	0.	0	50	
Trucks, Buses	0	0.	0	0 :	0	1	1
% Trucks, Buses	0	0:	0	0	0	100	50
Tractor Trailers		0:	0	0,	. 0	0	1
% Tractor Trailers	100	0:	0	0 :	0	0	50



204 North George Street Suite 110 York, PA 17401 (717) 846-4660

File Name : 3880112 Site Code : 03880102 Start Date : 1/15/2010

Page No : 2

	Emmitsburg Road (S.R.3001) Southbound			Eisenhower / Allstar Driveway Westbound			Emmitsburg Road (S.R.3001) Northbound			
Start Time	Thru .	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 16:	00 to 18:45 - F	eax lofl							• • •	•
Peak Hour for Entire Intersect	ion Begins at	16:00								
16:00	81	3	21	1	1	2 ·	5	31	36	59
16:15	23	3	26	4	1	5	8	31	39	70
16:30 [!]	30	2	32	1	0	I	В	33	41	74
16:45	32	8	40	. 2	ì	3 -	4	23	27	70
Total Volume	103	16	119	.8	3	11	25	811	143	273
% App. Total	86.6	13.4		72.7	27.3		17.5	82.5		
PHF	.805	.500	.744	.500	.750	.550	78I	.894	.872	.922

Emmitsburg Road (S.R.3001) Out in Total 126 119 245 103 16 Thru Left		_
Peak Hour Data North Peak Hour Begins at 18:00 Passenger Vehicles Trucks, Buses Tractor Trailers	 8. 3 Right Left ♣ →	Courinower; Austar Linveyay Out In Total 41 11 52
Thru Right 118 25 106 143 249 Out Total Emmitsburg Road (S.R.3001)		



204 North George Street Suite 110

Location: Emmitsburg Rd / Eisenhower Driv

Tractor Trailers
% Tractor Trailers

Municipality: Cumberland Twp.

Day: Saturday Counter: Steve York, PA 17401 (717) 846-4660

File Name : 3880113 Site Code : 03880103 Start Date : 1/16/2010

Page No :: 1

;	Emmitsburg Road (S.R.3001) Southbound		Eisenhower / Allstar Westbound		Emmitsburg Road (Northboun		
Start Time	Thru	Left :	Right j	Left	Right	Thru	Int. Total
12:00	19	2	4	3	3	17	48
12:15	18	5	6	4	1	27	61
l2:30 ¦	28	0	3	2	ı	24	58
12:45	17	3 1	4	1	0	18 -	43
Total:	82	10	17	10	5	86	210
13:00	35	3	2	6	2	23	71
13:15	27	3	2	2	2	17	53
13:30 j	33	0	4	0	3	14	54
13:45 <u>i</u>	22	5 ;	2	1	1	32	63
Total	117	ti ^{ri}	10	9	8	86	241
14:00	24	3 :	5	1:	4	16.	53
14:15	27	2 :	0	1	3	17	50
14:30	20	L'	5	0.	l l	31.	58
14:45 j	23	2 .	1	0	2	H	. 39
Total ,	94	8 ,	i i in	2	01	75	200
Grand Total	293	29 -	38	21	23	247	651
Appreh %	91	9 🖯	64.4	35.6	8.5	91.5	
Total %	45	4.5	5.8	3.2	3.5	37.9	
Passenger Vehicles	292	29 ,	38	21	23	247	650
% Passenger Vehicles	99,7	100;	100	100 !	100	. 100	99.8
Trucks, Buses	1	0	0	0 ,	0	0	j
% Trucks, Buses	0.3	0	0	0;	, , , , , ,	0	0.2



204 North George Street Suite 110

Location: Emmitsburg Rd / Eisenhower Drw

Municipality: Cumberland Twp.

Day: Saturday

York, PA 17401 (717) 846-4660

File Name : 3880113 Site Code : 03880103

Start Date : 1/16/2010

Page No : 1

Counter: Steve

		Gr		rucks, Buses - Trac				
	Em	mitsburg Road (S. Southbound		enhower / Allstar l Westbound	Driveway	Emmitsburg Road () Northbound		
	Start Time :	Thru	Left	Right	Left	Right	Thru	Int. Total
	13:00 ;	1	0 ·	0	0	0	0	t
	Total	·· i ···	0	0	0.	. 0	0	1
	Grand Total	1	0 :	0	0	0	0	
	Apprch % Total %	100 100	0 : 0 :	0	0;	0	0	
9/	Trucks, Buses Trucks, Buses	100	0	0	0,	0	Ò . O	1 100
	Tractor Trailers Tractor Trailers	0	0	0	0	0 0	0	0 0



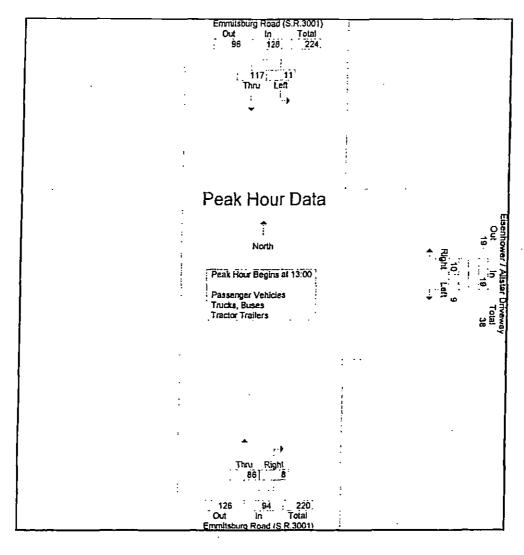
.204 North George Street Suite 110 York, PA 17401

1 ors. PA 17401 (717) 846-4660 File Name : 3880113 Site Code : 03880103

Start Date : 1/16/2010

Page No : 2

		irg Road (S.	R.3001)	Eisenhov	ver / Allstar Dr Westbound	iveway	Emmitsbu N			
Start Time	Thru i	Left	App. Total	Rìght	Left	App. Total	Right .	Thru	App, Total	Int. Total
Peak Hour Analysis From 12	:00 to 14:45 -	Peak 1 of 1		_						
Peak Hour for Entire Intersec	tion Begins at	13:00								-
13:00	35	3	38	2	6	8	2	23	25	71
13:15	27	3	30	2	2	4	2	17	19	53
13:30	33	0	33	4	0	4	3	14	17	54
13:45 j	22	5	27	. 2	1	3	1	32	33	63
Total Volume	117		128	10	9	19	8	86	94	241
% App. Total	91,4	8.6	:	52.6	47.4		. 8.5	91.5		
PHF	.836	.550	.842	.625	.375	.594	.667	.672	.712	.849

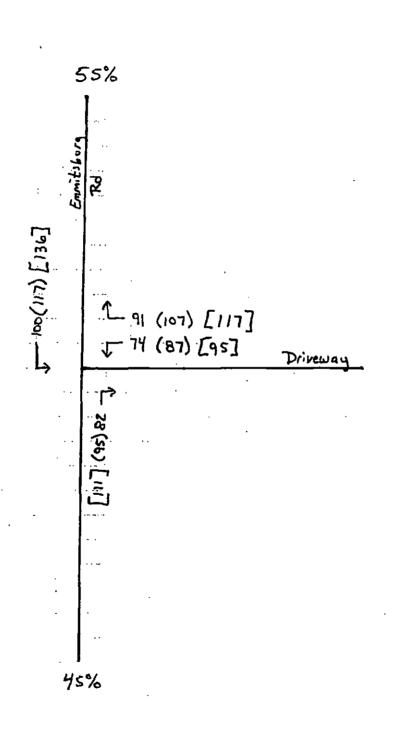




204 N. Cenros Street Suits 110

204 N. George Street, Suite 110 York, PA 17401-1108 T: (717) 846-4660 • F: (717) 846-4858 www.consulttrg.com

ject: <u>Mas</u>	in-Dixon Reso	rt and Co	<u> </u>	-	_
Subject: <u>Tri</u>	Distribution	and As	signment	Job No. 388.0)	
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Computed By	DIT	Date 1/27	Checked By	Date	



000 (000) [000] PM peak Thursday (PM peak Friday) [Saturday peak]

Table 355

Average Day of Week by Month Factors Compiled for Total Vehicles

The following 12 tables show average day of week factors by month compiled for total vehicles for the year 2008. Current year Automatic Traffic Recorder (ATR) traffic data is assembled and the data is placed in the respective TPG. Annual Average Daily Traffic (AADT) is tabulated individually for each of the 57 ATR stations. A factor is calculated for each day from each station and a list is tabulated by month and day of the week. This data is assembled by day and TPG for each station. The result is a group factor, which can be applied to a 24-hour raw traffic count taken during any day of the year to develop an AADT volume.

Seasonal Factor

			J	anuary	y 2008					
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	1.130	1.289	1.102	1.167	1.142	1.264	1.151	1.231	1.155	1.288
Tuesday	1.093	1.297	0.989	1.125	1.078	1.229	1.112	1,191	1.083	1.243
Wednesday	1.060	1.316	0.987	1.120	1.072	1.205	1.076	1.196	1.080	1.330
Thursday	1.030	1.257	0.961	1.075	1.055	1.166	1.054	1,176	1.061	1.224
Friday	0.964	1.125	0.925	0.987	1.008	1.062	0.991	1.068	1.002	1.111
Saturday	1.320	1.429	1.284	1.311	1.208	1.443	1.219	1.299	1.275	1.216
Sunday	1.468	1.367	1.698	1.498	1.377	1.649	1.461	1.520	1.492	1.344
DAY OF MONTH	1.152	1.297	1.135	1.183	1.134	1.288	1.152	1.240	1.164	1.251

			É	ebruar	y 2008					
DAY	TPG 1	TPG 2	TPG 3	TPG-4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	1.072	1.261	1.016	1.117	1.125	1.190	1.102	1.203	1.114	1.290
Tuesday	1.072	1.349	0.982	1.118	1.089	1.183	1.095	1.169	1.082	1.235
Wednesday	1.035	1.267	0.961	1.084	1.056	1.158	1.019	1.189	1.131	1.201
Thursday	0.992	1.194	0.927	1.035	1.039	1.089	1.029	1.108	1.042	1.192
Friday	0.946	1.094	0.899	0.952	1.010	1.005	0.975	1.052	1.029	0.910
Saturday	1.238	1.384	1.224	1.227	1.171	1.312	1.187	1.252	1.239	1.158
Sunday	1.349	1.324	1.543	1.491	1.348	1.523	1.389	1.501	1.488	1.476
DAY OF MONTH	1.101	1,267	1.079	1.146	1.120	1.209	1.114	1.210	1.160	1.209



McMAHON ASSOCIATES, INC. 3903 Hartzdale Drive | Suite 301 | Camp Hill, PA 17011 p 717-975-0295 | f 717-975-0294

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February 10, 2010

Timothy Knoebel, P.E. KPI Technology 1370 Fairfield Road Gettysburg, PA 17325 PRINCIPALS
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Rodney P. Plourde, Ph.D., P.E.
Joseph J. DeSantis, P.E., PTOE
John S. DePalma
William T. Steffens
Casey A. Moore, P.E.

ASSOCIATES Gary R. McNaughton, P.E., PTOE John J. Mitchell, P.E. Christopher J. Williams, P.E. John F. Yacapsin, P.E.

RE: Traffic Engineering Review # 1

Mason-Dixon Resort and Casino – Traffic Impact Study Scope Cumberland Township, Adams County McMahon Project No. 905066.22

Dear Mr. Knoebel:

We have reviewed the scoping letter regarding the traffic impact study for the proposed development of the Mason-Dixon Resort and Casino. It is our understanding that the development will consist of the redevelopment of the Eisenhower Inn and Convention Center and the conversion of the All-Star Family Fun & Sports Complex into a casino and resort with 600 slots and 50 table games. The development is located to the east of Emmitsburg Road (S.R. 3001) between Cunningham Road (S.R. 3008) and Barlow Road (S.R. 3006). Access to the site is proposed to continue to be provided by the existing driveway on Emmitsburg Road (S.R. 3001).

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- 1. Since this development will access a State Road, we recommend that a scoping letter be submitted to PennDOT as well for their review. Although not located within our Township, we expect this development to have a potentially significant impact to the nearest interchange with Route 15 to the south of the site and therefore recommend these intersections be evaluated as well. We recommend the additional study intersections within the Township, beyond the site access, as follows:
 - Emmitsburg Road (S.R. 3001)/ Cunningham Road (S.R. 3008)
 - Emmitsburg Road (S.R. 3001)/ Barlow Road (S.R. 3006)

- 2. Regarding the traffic count data, it is unclear whether you are proposing to add the new trip generation onto the count data, and if the Eisenhower Inn and Convention Center was in full operation (convention or event scheduled) at the time of the counts. Based on the tourist season, the traffic volumes are expected to be significantly higher in the summer months, with more "typical" traffic during the months of May and September when both school is in session and tourist season tends to begin/wind down. We understand that it may not be feasible to wait until May to count, but we recommend that the Township request an agreement from the developer to conduct a recount and re-evaluation of the study intersections when counts can be obtained during these times of the year. Also, regarding internal capture, the 2% reduction should be taken from the lower trafficgenerating land use, which may be the hotel portion of the site—please verify and revise accordingly.
- 3. Regarding trip generation, we understand that limited trip generation data is available regarding this particular land use, and assumptions must be made for preliminary evaluation of the traffic. That being said, although the specific sites in the study had a similar amount of table games, the trip generation was established based on number of slots and your development will have significantly less slots, therefore it may be underestimating the trip generation for the site if the table games actually generate more traffic per gaming position than the slots. It is recommended that the Township request an agreement with the developer to conduct a trip generation post-development study of the site after full build-out while in full operation to re-evaluate the need for additional improvements and traffic impact fee re-assessment.
- 4. Regarding trip distribution, it is our understanding that this type of development typically conducts a "marketing study", which indicates their general anticipated trip distribution. Based on the location of this proposed casino compared to other regional casinos, we anticipate a more significant portion of the traffic to travel to/from Route 15 to the south of the site. Please request and review any marketing studies available by the developer and revise your distribution, as applicable.
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Timothy Knoebel, P.E. February 10, 2010 Page 3

A copy of all future Traffic Impact Studies, Land Development Plans, and Highway Occupancy Permit Plans should be submitted to McMahon for review. Please feel free to contact me with any questions or if you need anything else.

Sincerely, Opdie L. Evano

Jodie L. Evans, P.E., PTOE

Project Manager

cc: Ms. Florence Ford - Cumberland Township Manager

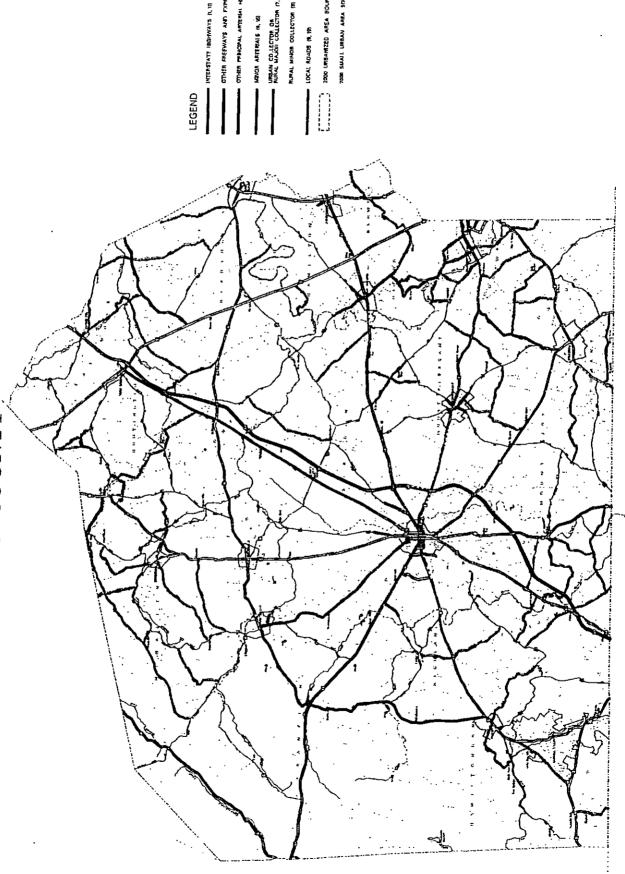
Mr. Dan Thorton –TRG, Inc.

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LOCAL ADADS (9, 19)

MINOR ARTERIALS IN 103

1500 SMALL URBAN AREA SOUNDARY 2000 URBANIZED AREA BOUNDARY



Dan Thornton

From:

Evans, Jodie [jodie.evans@mcmtrans.com]

Sent:

Tuesday, February 23, 2010 3:51 PM

To:

Dan Thornton

Cc:

Kinard, Eric W

Subject:

Mason Dixon Casino and Resort, Cumberland Twp, Adams Co.- change in scope for TIS

Attachments:

image001.jpg

Dan.

As discussed earlier, it has been brought to our attention that the bridge is currently closed on Cunningham Road and not anticipated to be open again until 2013. Also, once the bridge re-opens minimal traffic is expected to use this route to travel to/from the Mason-Dixon Resort and Casino, therefore we concur that the Cunningham Road and Emmittsburg Road intersection can be removed from the Traffic Impact Study scope from the Cumberland Township perspective.

Thanks, Jodie Evans, P.E., PTOE Project Manager

McMahon Associates, Inc. 3903 Hartzdale Drive, Suite 301 Camp Hill, Pennsylvania 17011 p: 717.975.0295

f: 717.975.0294

jodie.evans@mcmtrans.com



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Important notice to recipients:

Copies of documents that may be relied upon by you are limited to the printed copies (also known as 'nard copies') that are signed and sealed by the Engineer and/or Land Surveyor. Files in electronic formats, or other types of information furnished by the Engineer and/or Land Surveyor to you such as text, data or graphics are for your convenience only. Any conclusions or information obtained or derived from such electronic files will be at the user's sole risk. When transferring documents in electronic formats, the Engineer and/or Land Surveyor makes no representation as to long-term compatibility, usability, or readability of the documents resulting from the use of software application packages, operating systems or computer hardware differing from those used by McMahon Associates, Inc. at the beginning of the project.



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February 10, 2010

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Timothy Knoebel, P.E. February 10, 2010 Page 2

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Timothy Knoebel, P.E. February 10, 2010 Page 3

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Sincerely, Opdie L. Evano

Jodie L. Evans, P.E., PTOE

Project Manager

cc: Ms. Florence Ford - Cumberland Township Manager

Mr. Dan Thorton -TRG, Inc.

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204 N. George Street, Suite 110 • York, PA 17401-1108 • T: (717) 846-4660 • F: (717) 846-4858 • www.consulttrg.com
January 27, 2010

Ms. Florence Ford, Manager Cumberland Township 1370 Fairfield Road Gettysburg, PA 17325

Re: Mason-Dixon Resorts, LLC
Mason-Dixon Resort and Casino
Traffic Impact Study Scoping Letter
Cumberland Township, Adams County
TRG Project No. 388.01

Dear Ms. Ford:

This letter summarizes the proposed traffic impact study scope for the proposed Mason-Dixon Resort and Casino located to the east of Emmitsburg Road (S.R.3001) in Cumberland Township, Adams County. Currently on site is the Eisenhower Inn and Conference Center and the All-Star Family Fun & Sports Complex. Access to the existing facilities is provided by an existing full movement driveway on Emmitsburg Road (S.R.3001) to the south of Barlow Greenmount Road.

As part of the proposed development, the All-Star Family Fun building is proposed to be converted to a casino. The size of the building will not change but will be renovated to accommodate the casino's need. The casino is proposed to have 600 slots and 50 table games at this time. Access to the proposed casino will continue to be provided by the full movement driveway on Emmitsburg Road (S.R.3001). An aerial of the tract of land is attached for your reference.

As part of the traffic impact study, we are proposing the following study scope:

Study Intersections

Emmitsburg Road (S.R.3001)/Existing Driveway

Trip Generation

The trip generation for the site was determined based on an ITE article "Trip Generation Characteristics of Small to Medium Sized Casinos". A copy of the ITE article is attached. The article describes the trip generation for five small to medium casinos that had slots and tables. The casinos in the article had more slots than the proposed Mason-Dixon Resorts and Casino will have but the total number of tables are comparative. Therefore, the trip generation rates

Ms. Florence Ford January 27, 2010 Page 2

included in the article will be utilized to determine the anticipated traffic for the proposed casino. Based on the information in the article, the Adjacent Street Peak Hour Trip Generation table will be utilized for the PM peak hour (Thursday) and the Facility Peak Hour Trip Generation table will be utilized for the PM peak hour (Friday) and for the Saturday peak hour. A table is attached that summarizes the anticipated trip generation.

Due to the existing Eisenhower Inn and Conference Center located on the site as well, an internal capture will be assumed from the hotel to the proposed casino. While ITE Trip Generation Handbook does not have an internal capture percentage between lodging and recreational, it was assumed that 2% of the trips to/from the proposed casino will be from the existing Eisenhower Hotel and will never leave the site. The attached trip generation table shows the proposed internal capture for the proposed casino.

Trip Distribution

Trip distribution will be determined based on the existing turning movement counts (TMC) conducted at the site access intersection. Copies of the existing traffic counts are attached. The anticipated trip distribution will be assumed as follows:

- 55% oriented to/from the north on Emmitsburg Road (S.R.3001)
- 45% oriented to/from the south on Emmitsburg Road (S.R.3001)

A sketch is attached that shows the anticipated trip distribution and assignment for the proposed casino.

Study Time Periods

The study periods for analysis are proposed as follows:

•	Weekday Thursday PM Peak Hour	3:00 – 6:00 PM
•	Weekday Friday PM Peak Hour	4:00 - 7:00 PM
•	Saturday Peak Hour	12:00 – 3:00 PM

The traffic counts were conducted in January 2010 and will be seasonally factored using guidelines from PennDOT Traffic Data. Copies of the seasonal factors are attached. Automatic traffic recorder (ATR) counts will also be conducted on Emmitsburg Road (S.R.3001) and the existing driveway.

Analysis Scenarios

The following analysis scenarios are proposed based on an opening year of 2011 and a 5 year design period:

- Existing traffic volumes
- 2011 traffic volumes without development
- 2011 traffic volumes with development
- 2016 traffic volumes without development
- 2016 traffic volumes with development

Ms. Florence Ford January 27, 2010 Page 3

The background growth rate factor will be determined based on PennDOT's Growth Factors for July 2009 to July 2010. For this development, the growth rate factor is 0.86% per year.

Please review the attached information and respond in writing with your required scope of work. We are also requesting any developments and/or committed roadway improvements within our study area that the Township will require to be included in the Traffic Impact Analysis for the proposed development.

If you have any questions, please feel free to give me a call.

Very truly yours,

Transportation Resource Group, Inc.

Daniel J. Thornton, P.E.

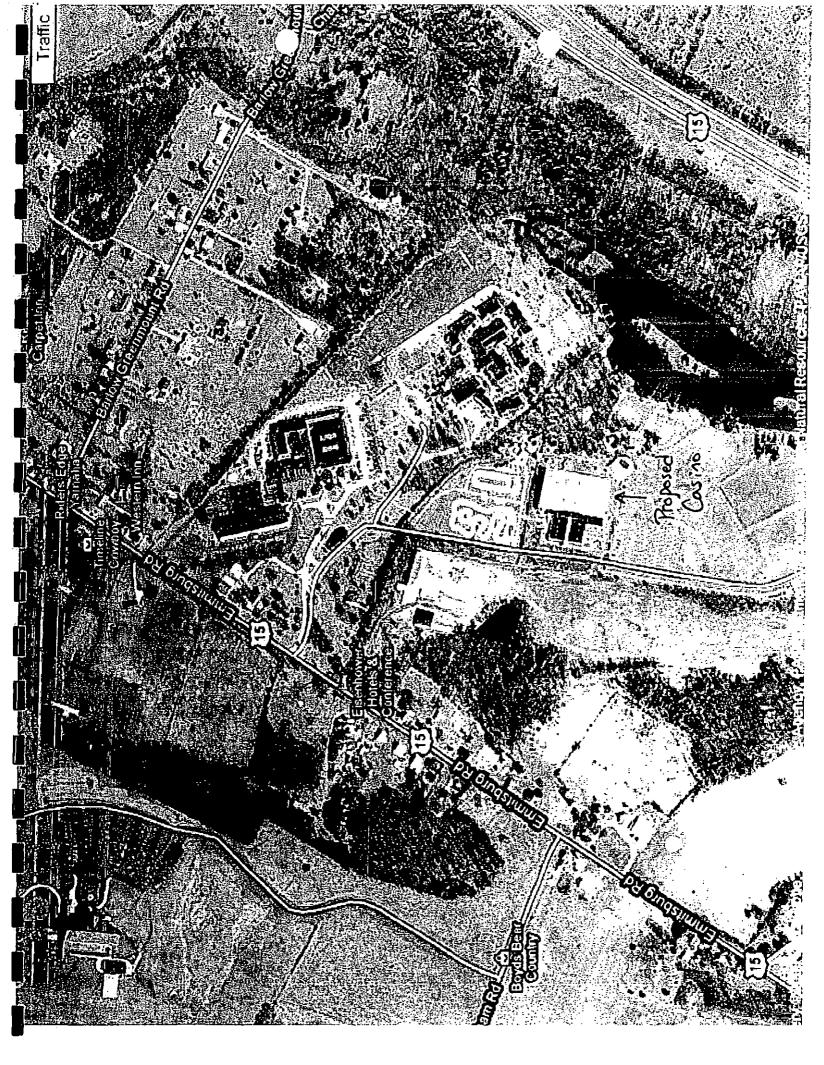
Senior Associate

DJT/vaw Attachments

cc: David LeVan, Mason-Dixon Resorts, LLC
Bernard A. Yannetti, Jr., Esquire, Hartman & Yannetti

Timothy R. Knoebel, P.E., KPI Technology

Jodie Evans, P.E., PTOE, McMahon Associates, Inc.



Trip Generation Characteristics of Small to Medium Sized Casinos

Michael Trueblood, Tara Gude

OVERVIEW

This paper focuses on trip generation for small to medium sized casinos that are not part of a cluster of casinos. The data collection for this paper included three casinos located in Council Bluffs, Iowa. Two of the casinos are riverboat casinos and are located along the Missouri River, while the other casino includes an existing dog racetrack that later added slot machines.

In addition to the casinos located in Council Bluffs, the calculated trip generation rates were compared to rates included in a March 1998 ITE Journal article entitled *Gaming Casino Traffic*. The article calculated trip generation rates for two casinos in the St. Louis metropolitan area, the Casino Queen and the St. Charles Casino.

There is not an overwhelming amount of trip generation information available for casinos located outside of the typical Las Vegas or Atlantic City stereotype. The trip generation characteristics of casinos found in large clusters, like those in Las Vegas for example, are not similar to the casinos that will be covered in this article. For comparison purposes the MGM Grand Casino in Las Vegas has over 5,000 hotel rooms with over 3,500 slot machines, while the Treasure Island Casino has over 2,900 hotel rooms with over 2,000 slot machines. The trip generation characteristics of these casinos are quite different than the five covered in this paper due to their immense size and popularity. Another reason these casinos have different trip generation characteristics is because they are accessible by foot. In Las Vegas people tend to walk to and from the casinos or drive to one and then walk to several others throughout the course of a day.

It should be noted that each state has different rules and regulations that govern the actual type of establishment that can be used for gambling. Recent regulations have changed or have been modified in order to allow gambling facilities to be established beyond the typical riverboat casinos. Examples of these casinos are those operated by Indian Tribes. There are several casinos operated by Indian Tribes across the country. These casinos range in size, but they are good examples of the types of casinos this paper addresses.

LOCATION OF CASINOS

This section will provide a brief overview of the location of the three Council Bluffs casinos and the two casinos located in the St. Louis metropolitan area. The casino locations are shown in Figure 1. The three casinos in Council Bluffs, Iowa are located near the Missouri River in the Omaha metropolitan area. The Ameristar Casino and Harvey's Casino are located along the river within one mile of each other in the northwest quadrant of the I-29/I-80 interchange. Bluffs Run Casino is located about two miles east of these casinos along I-80. For comparison purposes to other casino locations, the 1998 average daily traffic (ADT) along I-29 was 40,500 vehicles, while the 1998 ADT along I-80 was 67,400 vehicles. The estimated 1999 population is 1,040,000 people within a 50-mile radius of the casinos.

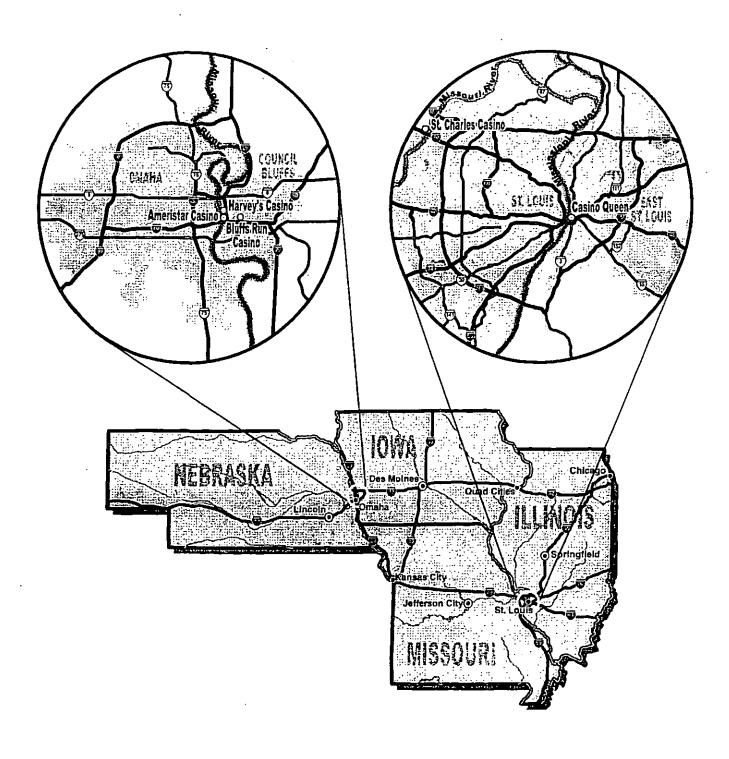


Figure 1 - Casino Location Map

The two St. Louis area casinos are also depicted in Figure 1. The St. Charles Casino is located along the Missouri River immediately north of I-70/Missouri River junction and about five miles to the west of I-270/I-70 junction in the City of St. Charles. The 1998 ADT along I-70 was 188,000 vehicles. The Casino Queen is located along the Mississippi River immediately east of the Gateway Arch and immediately north of the I-70/I-64/I-55 junction in the City of East St. Louis, Illinois. The ADT of these three interstates are 117,300 vehicles. The estimated 1999 population is 2,637,000 people within a 50-mile radius of the St. Louis area casinos.

GAMING REVENUES OF STUDY CASINOS

This section discusses the gaming revenues of the tri-state region where the five casinos presented in this paper are located. Between the years 1994-1999, St. Charles Casino had the second highest attendance of the eleven riverboat casinos within the state of Missouri. During the fiscal year 2000 the eleven riverboat casinos made over \$1.0 billion in adjusted gross revenues (AGRs). In Illinois, the nine riverboat casinos made over \$1.66 billion AGRs in 2000, with the Casino Queen ranked fifth out of the nine riverboats. In Iowa, Harvey's Casino and Ameristar Casino ranked one and two of out ten casinos in AGRs, respectively. The ten casinos in Iowa combined for over \$575 million in AGRs. Casinos within the State of Iowa that also have pari-mutuel wagering are accounted for separately in terms of their AGRs. Bluffs Run Casino was ranked two out of three casinos in AGRs. The three racetrack casinos, as they are called in Iowa, combined for over \$300 million in AGRs in 2000.

TRIP GENERATION CHARACTERISTICS OF STUDY CASINOS

Most of the available information concerning trip generation of casinos is related to large casinos or clusters of several casinos, such as those in Las Vegas. In order to determine the trip generation characteristics of small to medium sized casinos, HDR collected traffic information at three casinos in Council Bluffs, Iowa. Once the trip generation rates were computed, they were compared to trip generation rates of two St. Louis area casinos documented in a March 1998 issue of the ITE Journal.

Table 1 documents the five casinos' characteristics. It should be noted that the information for the Council Bluffs casinos is for the year 2000, while the information for the St. Louis casinos was collected in 1998.

Table 1 - General Casino Information

Amenities	Cou	ncil Bluffs,	Iowa	St. Louis Metro Area			
Amemics .	Harvey's	Ameristar	Bluffs Run	St. Charles	Casino Queen		
Slots	1169	1446	1479	1847	1020		
Total Tables	53	51	0	90	51		
Gaming sq. ft.	28,250	38,000	34,280	50,000	27,500		
Hotel Rooms	251	356	0	Not Applicable	Not Applicable		
Employees	1257	1329	1046	Not Available	1079		
Pari-mutuel Wagering	No	No	Yes	No	No		
Convention Center (seats)	900	170	No	Not Available	Not Available		

The data collection for the Council Bluffs casinos was conducted during the following times:

- Ameristar Saturday, July 15th to Tuesday, July 25th, 2000.
- Harvey's Thursday, July 20th to Sunday, July 30th, 2000.
- Bluffs Run Wednesday, July 19th to Saturday, July 29th and Saturday August 19th to Monday August 28th, 2000.

Automatic tube recorders were placed at all entrances and exits to the casinos. Data was collected in fifteen-minute intervals, 24-hours a day for each of the casinos. All five casinos operated on a 24-hour basis. As will be discussed later, the hourly information was unique when compared to other land uses. The following sections provide detailed information on the trip generation characteristics of the three Council Bluffs casinos. These rates were compared to the two St. Louis casinos and since the rates for all five casinos were similar, an average trip generation rate was computed.

Peak Hour Trip Generation Rates

A trip generation rate was calculated based on the number of slot machines that were located at each casino. Generation rates were calculated for both weekdays and weekends. Weekday trip generation rates were calculated for both the peak of facility and peak of adjacent street traffic. Traffic studies for new developments generally analyze the weekday peak hour of adjacent street traffic. However, several types of developments generate higher traffic levels during times other than the adjacent street traffic peak hour. Data from the casinos indicate that their peak trip generation rates are different than the peak hour of adjacent street traffic. Table 2 depicts the average PM peak hour trip generation rates of the five casinos for the peak hour of facility, while Table 3 depicts the average PM peak hour trip generation rate for the adjacent street traffic. The PM peak hour was chosen for purposes of calculating trip generation rates because they were generally higher than the AM peak hour. Tables A1, A2, and A3 located at the end of the paper document the three lowa casinos daily raw peak hour and time of day data.

Table 2 - Facility Peak Hour Trip Generation

					Average PM Peak							
•	Har	vey's	Ame	ristar	Bluffs Run		St. C	St. Charles		Queen	Hour Trips	
<u></u>	In	Out	ln	Out	In	Out	În	Out	In	Out	In Out	
Monday - Friday	502	380	423	477	537	491	725	625	348	336	507	462
Saturday/Sunday	482	375	624	471	553	579	850	750	Not Available		627	544
				PM	Peak H	our Per	Slot				Average PM Peak	
	Har	vey's	Ame	ristar	Bluff	s Run	St. Charles		Casino Queen		Hour Tri	ps Per Slot
	In	Out	ln	Out	In	Out	In	Out	ln	Out	In	Out
Monday - Friday	0.43	0.33	0.29	0.33	0.36	0.33	0.39	0.34	0.34	0.33	0.36	0.33
Saturday/Sunday	0.41	0.32	0.43	0.33	0.37	0.39	0.46	0.41	Not Av	ailable	0.42	0.36

Note: St. Charles weekday rate is for Friday only.

Table 3 - Adjacent Street Peak Hour Trip Generation

		PM Peak Hour										Average PM Peak	
	Har	vey's	Ame	eristar	Bluffs Run		St. C	St. Charles		Queen	Hour Trips		
<u> </u>	In	Out	In	Out	ln	Out	ln	Out	ln	Out	In	Out	
Monday - Friday	453	340	427	378	442	373	475	600	Not A	ailable	449	423	
Saturday/Sunday	423	334	491	413	490	467	Not Av	ailable	Not Available		468	404	
				PM	Peak H	lour Per	Slot				Ауегад	e PM Peak	
i	Har	vey's	Ame	ristar	Bluff	s Run	St. C	harles	Casino	Queen	Hour Tr	ips Per Slot	
	Ιn	Out	In	Out	ln	Out	ln	Out	In	Out	In	Out	
Monday - Friday	0.39	0.29	0.29	0.26	0.30	0.25	0.26	0.32	Not Av	ailable	0.31	0.28	
Saturday/Sunday	0.36	0.29	0.34	0.29	0.33	0.32	Not Av	ailable	Not Av	ailable	0.34	0.30	

Note: St. Charles weekday rate is for Friday only.

The PM peak hour trip generation rates were similar for each of the three Council Bluffs casinos. These rates were found to be comparable to the two St. Louis area casinos' trip generation rates. As shown above in Table 3, there is a correlation between the number of slot machines and the traffic generated by the casinos. For example, the two St. Louis area casinos have a difference in the number of trips generated by the facility. However when the trip generation rates were developed on a per slot machine basis, the rates are quite similar. Even though the St. Charles Casino has 800 slot machines more than the Casino Queen, their trip generation rates are comparable.

HDR's analysis of the five casinos in St. Louis and Council Bluffs found that their average weekday PM peak hour of adjacent street traffic trip generation rate was 0.59 trips per slot machine, while the average weekend PM peak hour trip generation rate was 0.64 trips per slot machine. These rates were close to the weekday and weekend PM peak hour of generator, which were 0.69 trips and 0.78 trips per slot machine, respectively.

The original trip generation rates calculated for the St. Louis area casinos were based on gaming positions. For purposes of this paper the rates provided in the March ITE Journal article were converted to trips per slot machine. This was done in order to directly compare the Council Bluffs and St. Louis trip generation rates. Gaming positions are calculated based on each type of game and are a percentage of the number of slot machines. Thus, calculating the number of gaming positions can get cumbersome. The other reason slot machines were used to calculate trip generation rates was because Bluffs Run Casino does not have table games.

Daily Trip Generation Rates

Table 4 shows the ADTs that were collected for the three Iowa casinos. An average daily trip rate was developed based on information from the three Iowa casinos and from the St. Charles Casino. Not enough information was available in order to include the Casino Queen in these calculations. Table 5 shows the weekday and weekend daily trip rates for each of the four casinos in addition to an average daily trip rate.

Table 4 - Average Daily Traffic (ADT)

	Harve	y's Daily Vol	ume	Ameris	star Daily Vo	lume	Bluffs Run Daily Volume			
Davi	Inbound Volume	Outbound Volume	ADT	Inbound Volume	Outbound Volume	ADT	Inbound Volume	Outbound Volume	ADT	
Day										
Sunday	7,038	6,749	13,787	7,438	8,175	15,613	8,871	8,887	17,758	
Monday	5,402	4,745	10,147	5,378	5,394	10,771	6,665	6,741	13,406	
Tuesday	9,334	8,496	17,830	6,903	6,761	13,663	7,702	7,180	14,882	
Wednesday	6,401	5,221	11,622	5,823	5,730	11,553	7,499	6,827	14,326	
Thursday	6,944	5,462	12,406	5,845	5,703	11,548	8,494	7,867	16,361	
Friday	8,230	5,938	14,168	8,043	7,460	15,503	9,211	8,441	17,652	
Saturday	8,075	7,025	15,100	8,311	8,129	16,440	9,957	9,392	19,349	

Table 5 - Average Daily Traffic Rates

			ADT				Average			
					Harvey's Ameristar Bluffs Run St. Charles			St. Charles	ADT per slot	
Monday - Friday	13,249	12,496	15,325	17,362	11.33	8.64	10.36	9.40	9.93	
Saturday/Sunday	14,443	16,026	18,554	19,959	12.36	11.08	12.54	10.81	11.70	

Note: St. Charles weekday rate is for Friday only.

The ADT was higher on weekend days compared to weekdays. As shown in Table 4 there was more than a 50% increase in the ADT on weekends at some of the casinos. Another interesting factor that made relatively large increases in ADT was the special promotions that the casinos offer. For example, Harvey's Casino had double points for slot club members on Tuesdays, which generated more traffic than a typical weekend day. Double points allow slot club members to earn extra points that can be redeemed for cash.

Another finding of interest was the amount of traffic that occurs during the late night hours. It was assumed that this was related to the fact that all five casinos evaluated in this paper were located within a metropolitan area and relatively close to an interstate. Table 6 documents the time variation of trips at the three Council Bluffs casinos and the St. Charles Casino. Again, data was not available for Casino Queen.

Table 6 - Casino Related Time Variations of Trips

		Percentage of Traffic during each time period											
il i	Harvey's		Ameristar		Bluffs Run		St. Charles		Average				
	Weekday Weekend		Weekday Weekend		Weekday Weekend		Weekday Weekend		Weekday	Weekend			
9 AM - 9 PM	64.6	58.4	69.0	61.9	66.1	59.5	65.7	69.5	66.3	62.3			
9 PM - 9 AM	35.4	41.6	31.0	38.1	33.9	40.5	34.3	30.5	33.6	37.7			
12 AM - 6 AM	10.9	17.9	9.2	16.2	10.9	17.4	13.8	9.0	11.2	15.1			
6 AM - 12 PM	21.0	19.6	20.7	17.3	23.1	20.8	15.8	19.0	20.1	19.2			
12 PM - 6 PM	34.3	31.2	37.9	32.3	34.7	31.7	34.6	33.6	35.4	32.2			
6 PM - 12 AM	33.8	31.3	32.3	34.1	31.3	30.1	35.8	38.4	33.3	33.5			

Generally, most land uses do not operate on a 24-hour basis. As a result, roadways located near these casinos tend to have more traffic on them during the late night hours. The daily trip information is important because it captures some of the impacts related to off-peak traffic levels. This could lead to potential concerns of nearby residents or business owners. If the location of a potential casino was proposed near a neighborhood, the future casino could cause lighting, noise, or other environmental concerns. Our data shows some justification to these concerns over late-night traffic. Typically between the hours of 12:00 AM and 6:00 AM most land uses are not in operation and thus do not generate trips. These four casinos, on the other hand, averaged over 15% of their daily trips during these same hours. This could lead to potential complaints by nearby residents or businesses.

SUMMARY

This paper included the trip generation rates of three lowa casinos and compared their rates to that of two St. Louis casinos included in a March 1998 ITE Journal article. In general, the five casinos had comparable trip generation rates for both weekdays and weekends. These rates could be used when determining the viability of a proposed casino or the expansion of an existing casino. As always, data collected at or near the actual casino site should be used, but if this is not possible, these rates could provide for a relative comparison of whether the nearby roadways could handle the increase in traffic due to the casino.

HDR's analysis of the five casinos found that their average weekday PM peak hour of adjacent street traffic trip generation rate was 0.59 trips per slot machine, while the average weekend PM peak hour trip generation rate was 0.64 trips per slot machine. These rates were close to the weekday and weekend PM peak hour of generator, which were 0.69 trips and 0.78 trips per slot machine, respectively. The average weekday ADT was 9.93 trips per slot, while the weekend average ADT was 11.70 trips per slot.

It should also be noted that these casinos could be considered isolated in terms of walking from one to another. The generation rates of casinos that are found in clusters (Las Vegas) have different characteristics than the casinos studied in this paper. This can be related to the large number and size of casinos located within the clusters and the fact that they are generally located very close to each other. Another important piece of information that should be reviewed is a market analysis. A market analysis could give an estimate of the daily admissions expected at the casino. This could give an indication if these rates are applicable to the proposed casino. As with all land uses, variations in trip generation rates will exist, but knowing what the potential traffic impact could be is better than not having any comparative information.

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Table A1 - Harvey's Peak Hour Raw Data

		A	M Peak Ho	ur	I	PM Peak Ho	ur .
Day	Date	Time	Inbound Volume	Outbound Volume	Time	Inbound Volume	Outbound Volume
Thursday	7/20/00	11:00	358	209	6:00	458	317
Friday	7/21/00	10:45	323	252	5:00	548	387
Saturday	7/22/00	10:00	285	273	5:30	591	380
Sunday	7/23/00	11:00	433	265	3:30	409	462
Monday	7/24/00	10:45	280	208	4:30	347	279
Tuesday	7/25/00	11:00	562	469	6:00	715	606
Wednesday	7/26/00	10:45	320	203	5:00	440	352
Thursday	7/27/00	11:00	362	263	6:00	493	319
Friday	7/28/00	10:45	412	179	5:30	512	403
Saturday	7/29/00	11:00	304	256	5:00	518	317
Sunday	7/30/00	11:00	345	271	3:15	410	342

Table A2 – Ameristar Peak Hour Raw Data

	1	A	M Peak Ho	ur	I	M Peak Ho	ur
Day	Date	Time	Inbound Volume	Outbound Volume	Time	Inbound Volume	Outbound Volume
Saturday	7/15/00	10:30	363	240	5:30	596	420
Sunday	7/16/00	11:00	379	388	6:00	609	543
Monday	7/17/00	10:45	248	282	3:15	314	435
Tuesday	7/18/00	11:00	430	287	3:00	463	637
Wednesday	7/19/00	10:45	340	230	5:30	429	334
Thursday	7/20/00	10:45	356	228	3:00	349	471
Friday	7/21/00	11:00	364	283	5:45	662	441
Saturday	7/22/00	11:00	370	265	5:45	700	461
Sunday	7/23/00	11:00	409 .	351	5:45	592	461
Monday	7/24/00	10:45	299	289	3:15	319	462
Tuesday	7/25/00	11:00	458	343	3:00	427	557

Table A3 – Bluffs Run Peak Hour Raw Data

		M Peak Ho	ur	F	M Peak Ho	ur_
Day	Time	Inbound Volume	Outbound Volume	Time	Inbound Volume	Outbound Volume
Monday	11:00	348	420	15:00	443	416
Tuesday	10:45	436	393	15:00	549	513
Wednesday	11:00	417	310	15:00	542	474
Thursday	10:45	425	370	15:30	571	507
Friday	11:00	406	379	15:30	580	544
Saturday	11:00	478	361	16:00	486	635
Sunday	10:15	423	378	15:00	620	523

			-		Table 1 Estimated Trip Generation (Mason-Dixon Resort and Casino)	Table 1 Estimated Trip Generation ason-Okon Resort and Casing	 -				
Land Use	Tuno	PM F	PM Peak Hour (Thursday)		Md	PM Peak Hour (Friday)	(ay)	Š	Saturday Peak Hour	'n	Average
(Code)	246	Enter	Exit	Total	Enter	Exit	Total	Cotor			Weekday
							ino.		באוו	lotal	Cally Traffic
	New	182	165	347	212	194	406	247	212	459	
Casino	Internation		 - 								
(600 slots)	2%	4	၉	۷	4	4	æ	ĸ	4	Cs:	5958
	i										
	Total	186	168	354	216	198	414	252	216	468	
)	

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Transportation Resource Group, Inc. 204 North George Street Suite 110

Location: Emmitsburg Rd / Eisenhower Drwy

Tractor Trailers % Tractor Trailers

0

Municipality: Cumberland Twp. Day: Thursday

Counter: Steve

York, PA 17401 (717) 846-4660

File Name : 3880111 Site Code : 03880101

Start Date : 1/14/2010 Page No : 1

		Groups Pri	inted- Passeng	er Vehicles - Truck	s, Buses - Tracto	or Trailers		
	, , , , , , , , , , , , , , , , , , , ,	Emmitsburg Road	(S.R.3001)	Eisenhower / Allst		Emmitsburg Ro	ad (S.R.3001)	
-		Southboun	d	Westbou	ind	Northb		,
	Start Time	Thru	Left	Right	Left	Right	Thou	Int. Total
	15:00	19	2	Ö	4	1	15	41
	15:15	21	Ιį	3	1	2	20	48
-	15:30	16	3 `	6	2	0	23	50
	15:45	23	J	11 .	5	1	16	57
	Total	79	7	20	12	4	74	196
	16:00 .	19	3	2	3	4	17	48
	16:15	11	4	2	4	1	20	42
	16:30	, 17	3	1	1	4	15	41
4	16:45	27	2	1	2	0	29	61
	Total :	74	12		10	9	81	192
	17:00	21	3,	1	0	1	25	51
	17:15 :	23	F :	ł	2	· l	23	51
T.	17:30	24	3	2	1:	4	21	55
	17:45 -	14	2	. 0	1.	10	19	46
1	Total	82	9	4	4	16	88	203
1.	Grand Total	235	28	30	26	29	243	591
	Apprch %	89.4	10.6	53.6	46.4	10.7	89.3	
_	Total %	39.8	4.7	5.1	4.4	4.9	41.1	
	Passenger Vehicles	233	28	30	26	29	241	587
	% Passenger Vehicles i	99,1	100 :	100	100	100	99.2	99.3
	Trucks, Buses!	2		0	0	0	2	. 4
_	% Trucks, Buses	0.9	0 -	0	o :	0	0.8	0.7



204 North George Street Suite 110

Location: Emmitsburg Rd / Eisenhower Drwy
Municipality: Cumberland Twp.

York, PA 17401 (717) 846-4660

Day: Thursday

Counter: Steve

File Name : 3880111 Site Code : 03880101 Start Date : 1/14/2010

Page No : 1

Groups Printed-Trucks, Buses - Tractor Trailers

	Emmitsburg Road (S. Southbound	R.3001)	Eisenhower / Allstar E Westbound	riveway	Emmitsburg Road (S.R.3001)	
Start Time	Thru:	Left	Right	Left	Right	Thru	Int. Total
15:00	0	0	0	0	0	1	1
15:30 ,	1	0	0	0	o	0	1
Total '	· -·	0:	. 0	0.	0	1	2
16:00	0	0	0	0	0	I	. 1
16:45 Total	1	0	. 0 .	. 0.	0 0	0 .	! 2
Grand Total ' Apprch % . Total % :	2 100 50	0	0	0	0 0 0	2 100 50	4
Trucks, Buses % Trucks, Buses		0 0'	. 0 0	0 0	0 0	2 100	4 100
Tractor Trailers % Tractor Trailers	0 0	0 0	0 0	0 0	0 0	0 0	0 0



204 North George Street Suite 110 York, PA 17401 (717) 846-4660

File Name : 3880111 Site Code : 03880101 Start Date : 1/14/2010

Page No : 2

	Emmitsbu Sc	rg Road (S outhbound			er / Allstar l Westbound	Driveway		urg Road (S iorthbound		
, . Start Time	Thru:	Left	App. Total	Rìght	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 15:	00 to 17:45 - F	eak l of l								
Peak Hour for Entire Intersect	ion Begins at	16:45								
16:45	2 7	2	29	1	2	3	0	29	29	61
17:00	21	3	24	1	0	1	1	25	26	51
17:15	23	1	24	1	2	3	ı	23	24	51
17:30	24	3	27	2	1	3	4	21	25	55
Total Volume	95	9	104	. 5	5	10	6	98	104	218
% App. Total	91.3	8.7		50	50		5.8	9 4.2		
PHF	.880	.750	.897	.625	.625	.833	.375	.845	.897	.893

Emmilsburg Road (S.R.3001) Out In Total 103 104 207 95 9 Thru Left	
Peak Hour Data North Peak Hour Begins at 16:45 Passenger Vehicles Trucks, Buses Tractor Trailers	Elsenhower / Allstar Drivaway Out in Total 15 10 25 5 5 Right Left
Thru Right 98	



204 North George Street Suite 110

Location: Emmitsburg Rd / Eisenhower Drw Municipality: Cumberland Twp.

Day: Friday Counter: Steve York, PA 17401 (717) 846-4660

File Name : 3880112 Site Code : 03880102 Start Date : 1/15/2010

Page No : I

Groups Printed-Passenger Vehicles - Trucks, Buses - Tractor Trailers

	Emmitsburg Road (Eisenhower / Allstar Westbound		Emmitsburg Road Northbour		
Start Time,	Thru	Left	Right	Left	Right	Thru	Ini. Total
16:00	18	3.	1	: 1	5	31	59
16:15	23	3	4	i	8	31	70
16:30	30	2	J	0	8	3 3	74
16:45	32	8.	2	1	4	23	70
Total	103	16	8	3	25	118	273
17:00 .	20	4	3	. 2	5	23	57
17:15	21	6	4	2	7	22	62
17:30 }	23	1.	2	0.	4	29	59
17:45	23	7.	0	1	6	27	64
Total	87	18	9	5	22	101	242
18:00	21	4 ·	2	2	7	16	52
18:15	13	2 ·	1	2	1	15	34
18:30	21	3	3	1	8	24	60
18:45	14	2.	1	0	8	12	37
Total	69	n"	7	5	24	67 -	183
Grand Total	259	45	24	13	71	286	698
Apprch %	85.2	14.8	64.9	35.1	19.9	80.1	
Total %	37.1	6.4	3.4	1.9	10.2	41	
Passenger Vehicles	258	45	24	13 -	71	285	696
% Passenger Vehicles	99.6	100	001	100	100	99.7	99.7
Trucks, Buses	0	Ò.	0	0:	0	l i	I I
% Trucks, Buses	0	0	0	0	. 0	0.3	1.0
Tractor Trailers	1	0 .	0	0	0	0	1
% Tractor Trailers	0.4	0.	0	0.	0	0	0.1



204 North George Street Suite 110

Location: Emmitsburg Rd / Eisenhower Drw Municipality: Cumberland Twp.

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York, PA 17401 (717) 846-4660

Day: Friday

Counter: Steve

File Name : 3880112 Site Code : 03880102

Start Date : 1/15/2010

Page No : 1

Craune	Delated	Tanaka	Burne	Tractor '	reciles:
4 + FOUNS	P FINITA-	. I FUCKS.	DUSES +	FREIDE	I Fullers

		Emmitsburg Road (S	i.R.3001)	Eisenhower / Allstar I Westhound	Driveway	Emmitsburg Road (
<u> </u>	Start Time	Thru	Left	Right	Left	Right	Thru	int Total
	16:00	0 -	0	0	0	0	1	1
•	Total	0	0.	Ó	0	0	I	1
R	17:15	į.	0:	0	٥	0	0	1
	Total	i	0	0	0	0	0	t
1								
	Grand Total	1	0.	0	0	0	J	2
	Apprch %	100	0	0	0	0	100	
	Total %	50	0.	0	0,	0	50	•
•	Trucks, Buses	0	0	· · · · · · · · · · · · · · · · · · ·	0	0	1	1
	% Trucks, Buses	0	0 .	0	0	. 0	100	50
	Tractor Trailers		Ö	0	0,,	0	0	1
-	% Tractor Trailers	100	0 :	0	O	0	0	50



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Transportation Resource Group, Inc. 204 North George Street Suite 110

204 North George Street Suite 110 York, PA 17401 (717) 846-4660

File Name : 3880112 Site Code : 03880102

Start Date : 1/15/2010

Page No : 2

			rg Road (Southbound			er / Allstar l Westbound	Driveway		urg Road (S Sorthbound		
	Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak	Hour Analysis From 16:0	00 to 18:45 - 1	Peak I of i								
Peak	Hour for Entire Intersect	ion Begins at	16:00								
_	16:00 '	. 18	3	21	1	1	2	5	31	36	59
)	16:15	23	3	26	4	1	5	8	31	39	70
ļ	16:30	30	2	32	1	0	1	8	33	41	74
	16:45 :	32	8	40	. 2	ì	3	4	23	27	70
	Total Volume :	103	16	119	. 8	3	· H '	25	118	143	273
Ŋ	% App. Total;	86.6	13.4		72.7	27.3		17.5	82.5		
	PHF	805	.500	.744	.500	.750	550	.781	.894	.872	.922

Peak Hour Data North Peak Hour Begins at 16:00 Passenger Vehicles Tractor Trailers	Out in 11 52 41 11 52 8 3 Right Left
Thru Right 118 25 106 143 249 Out in Total	



204 North George Street Suite 110 York, PA 17401 (717) 846-4660

Location: Emmitsburg Rd / Eisenhower Drw Municipality: Cumberland Twp.

Day: Saturday Counter: Steve File Name : 3880113 Site Code : 03880103 Start Date : 1/16/2010

Page No ::1

Groups Printed-Passenger Vehicles - Trucks, Buses - Tractor Trailers

··- · · · ·- ·- ·-	Emmissburg Road (S.	R.3001) È	isenhower / Allstar	Driveway	Emmitsburg Road (S.R.3001)	01)	
· •	Southbound		Westbound		Northboun			
Start Time	Thru	Left	Right	Left.	Right:	Thru	Int. Total	
12:00	19	2	4	3 .	3	17	48	
12:15	18	5	6	4	1	27	61	
12:30	28	0	3	2	i	24 -	58	
12:45 !	17	3	4	1 .	0	18	43	
Total :	82	10	17	10	5	86	210	
13:00	35	3	2	6	2	23	71	
13:15	27	3	2	2	2	17	. 53	
13:30	33	0	4	0	3	14	54	
13:45 [22	5 :	2	1	1	32	· 63	
Total ·	117	1173	10	9"	8	86	241	
14:00	24	3 ·	5	1.	4	16	53	
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204 North George Street Suite 110

Location: Emmitsburg Rd / Eisenhower Drw

Municipality: Cumberland Twp.

Day: Saturday

Counter: Steve

York, PA 17401 (717) 846-4660

File Name : 3880113

Site Code : 03880103 Start Date : 1/16/2010

Page No : 1

Groups Printed-Trucks, Buses - Tractor Trailers

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Transportation Resource Group, Inc.

204 North George Street Suite 110

York, PA 17401 (717) 846-4660

File Name : 3880113 Site Code : 03880103

Start Date : 1/16/2010

Page No : 2

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13:15	27	3	30	2	2	4	2	17	19	53
13:30	33	0	33	4	0	4	3	14	17	54
13:45	22	5	27	2	1	3	1	32	33	63
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204 N. George Street, Suite 110 York, PA 17401-1108 T: (717) 846-4660 • F: (717) 846-4858

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7: (717) 846-4660 • F: (717) 846-4858 www.consulttrg.com	
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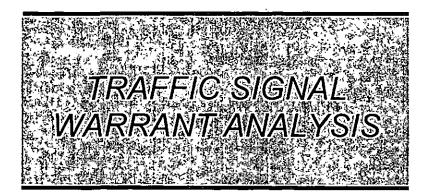
Table 355 Average Day of Week by Month Factors Compiled for Total Vehicles

The following 12 tables show average day of week factors by month compiled for total vehicles for the year 2008. Current year Automatic Traffic Recorder (ATR) traffic data is assembled and the data is placed in the respective TPG. Annual Average Daily Traffic (AADT) is tabulated individually for each of the 57 ATR stations. A factor is calculated for each day from each station and a list is tabulated by month and day of the week. This data is assembled by day and TPG for each station. The result is a group factor, which can be applied to a 24-hour raw traffic count taken during any day of the year to develop an AADT volume.

Seasonal Factor

			J	anuar	2008					
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	1.130	1,289	1.102	1.167	1.142	1.264	1.151	1.231	1.155	1.288
Tuesday	1.093	1.297	0.989	1.125	1.078	1.229	1.112	1.191	1.083	1.243
Wednesday	1.060	1.316	0.987	1.120	1.072	1.205	1.076	1.196	1.080	1.330
Thursday	1.030	1.257	0.961	1.075	1.055	1.166	1.054	1.176	1.061	1.224
Friday	0.964	1.125	0.925	0.987	1.008	1.062	0.991	1.068	1.002	1.111
Saturday	1.320	1.429	1.284	1.311	1.208	1.443	1.219	1.299	1.275	1.216
Sunday	1.468	1.367	1.698	1.498	1.377_	1.649	1.461	1.520	1.492	1.344
DAY OF MONTH	1.152	1.297	1.135	1.183	1.134	1.288	1.152	1.240	1.164	1.251

			F	ebruar	y 2008					
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	1.072	1.261	1.016	1.117	1.125	1.190	1.102	1.203	1.114	1.290
Tuesday	1.072	1.349	0.982	1.118	1.089	1.183	1.095	1.169	1.082	1.235
Wednesday	1.035	1.267	0.961	1.084	1.056	1.158	1.019	1.189	1.131	1.201
Thursday	0.992	1.194	0.927	1.035	1.039	1.089	1.029	1.108	1.042	1.192
Friday	0.946	1.094	0.899	0.952	1.010	1.005	0.975	1.052	1.029	0.910
Saturday	1.238	1.384	1.224	1.227	1.171	1.312	1.187	1.252	1.239	1.158
Sunday	1.349	1.324	1.543	1.491	1.348	1.523	1.389	1.501	1.488	1.476
DAY OF MONTH	1.101	1.267	1.079	1.146	1.120	1.209	1.114	1.210	1.160	1.209





WARRANT 9, ADT VOLUME WARRANT EVALUATION

PennDOT Publication 212.302.b (3) (ii)

CONDITION A ADT VOLUME WARRANT								
Number of Lanes on Each		Esti	imated ADT*					
Major Street	Minor Street	Major Street (Both Approaches)		_	ime Minor Street rection Only)			
	1	100%	70%**	100%	70%**			
1	1	10,000	图67,000编	3,000	第2,100 分			
2 or more	1	12,000	8,400	3,000	2,100			
2 or more	2 or more	12,000	8,400	4,000	2,800			
1	2 or more	10,000	7,000	4,000	2,800			

CONDITION B ADT VOLUME WARRANT									
Number of Lanes on Each	Estimated ADT*								
Major Street	Minor Street	Major Street (Both Approaches)		Higher Volume Minor Stre (One Direction Only)					
	1	100%	70%**	100%	70%**				
1	1	15,000	到10,500	1,500	第1,050至3				
2 or more	1	18,000	12,600	1,500	1,050				
2 or more	2 or more	18,000	12,600	2,000	1,400				
1	2 or more	15,000	10,500	2,000	1,400				

^{*} Based on the volume projected to be present within 6 months of the opening of the development or within 2 years of the opening of the highway.

Proposed Site Traffic for Proposed Casino:

ADT for entire development assuming full-build out: 7020 Exiting ADT for proposed casino: 7020 / 2 = 3510 exiting

Existing exiting ADT on driveway: 212 trips

Total ADT exiting driveway: 3510 + 212 = 3722 trips

ADT on Emmitsburg Road:

ADT on Emmitsburg Road: 2171
ADT entering from proposed casino: 3510
Total ADT on Emmitsburg Road: 5681

Based on the minimum ADT volumes shown in the Table for Condition A, the minimum ADT volumes are not met to satisfy Traffic Signal Warrant 9.

Based on the minimum ADT volumes shown in the Table for Condition B, the minimum ADT volumes are not met to satisfy Traffic Signal Warrant 9.

^{**} May be used if the 85th percentile speed of the major street traffic exceeds 40 miles per hour or the intersection lies within the built-up area of an isolated community having a population of less than 10,000.

Peak Hour Signal Warrant

MUTCD Warrant 3 - Peak Hour (70% Factor)

Based on MUTCD Sect. 4C.04 Signal Warrants and PENNDOT Publication 212

------ General Information

Project Number: 388.01

Location: Emmitsburg Rd / Complex Driveway

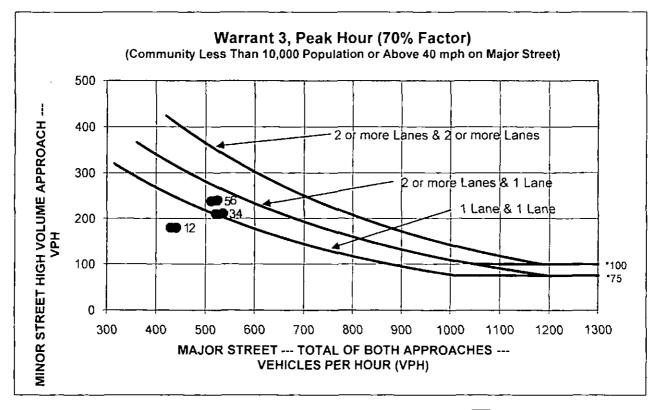
Performed By: DJT

of Major Street Lanes: 1 Lane

of Minor Street Lanes: 1 Lane

------ Analysis Details -----

	Scenario / Peak Hour	PHV Major Street	PHV Minor Street	Warrant Met?
1	2012 Traffic Volumes w/ Dev - PM (Thurs)	429	180	No
2	2017 Traffic Volumes w/ Dev - PM (Thurs)	440	180	No
3	2012 Traffic Volumes w/ Dev - PM (Fri)	521	210	Yes
4	2017 Traffic Volumes w/ Dev - PM (Fri)	535	211	Yes
5	2012 Traffic Volumes w/ Dev - Sat	512	238	Yes
6	2017 traffic Volumes w/ Dev - Sat	524	240	Yes



* Note

100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane



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June 18th, 2010

Mr. Bernard A. Yannetti, Jr., Esq. HARTMAN & YANNETTI 126 Baltimore Street Gettysburg, PA 17325

RE:

Results of Shriver Well Evaluation

Cumberland Township, Adams County, Pennsylvania

Advantage Project No.: 1002004

Dear Mr. Yannetti:

This letter provides the results of the evaluation performed by Advantage Engineers, LLC (Advantage) of the Shriver well. The purpose of the evaluation was to determine if the quantity and quality of groundwater available from this well was suitable for use as the source for the proposed Mason Dixon development.

Background

Advantage completed an evaluation of the existing Timeless Towns potable water system at the Eisenhower Inn and Conference Center. Those findings indicated that the existing groundwater-supplied system would have a deficit of approximately 25,000 gallons per day (gpd) if the Mason Dixon facility was added. The Shriver property is located on the west side of Emmitsburg Pike, and has an existing 6-inch diameter well constructed in the Gettysburg Formation, which is substantially more productive than the Diabase bedrock which serves as the aquifer for the Timeless Towns supply wells. Figures 1 and 2 (Attachment 1) show the Shriver well and surrounding area on a topographic map and recent aerial photograph. Figure 2 includes the mapped contact between the Gettysburg Formation and Diabase.

The groundwater in the area of the Eisenhower Inn was impacted by buried foundry waste that included metals and salts, and resulted in excess concentrations of some metals, nitrate, and Total Dissolved Solids (TDS) in some of the Timeless Towns supply wells. The impact appears to be contained within the Diabase bedrock aquifer.

The Shriver well is a 6-inch diameter open borehole bedrock test well (i.e., not permanently constructed for public water supply use), with a total depth of 200 feet that was drilled in February 1996. The yield was estimated at 100 gallons per minute (gpm) by the driller based on the blown yield (see Drillers Log, Attachment 2). Based on the drillers log, all of the water enters the borehole at single water bearing zone (WBZ) located 178 feet below grade. A water quality test of groundwater from the Shriver well for various metals and other inorganic compounds performed by PADEP in May 2000 showed elevated concentrations of iron, calcium, magnesium, and manganese (see Attachment 2); it is feasible that these elements may represent natural conditions, or reflect some impact from the foundry.

Mr. Bernard A. Yannetti, Jr., Esq. Advantage Project 1002004 March 26th, 2010 Page 2 of 6

Shriver Well Capacity

Well Pumping

The Shriver well capacity was determined by performing a pumping test and monitoring the well response. A temporary submersible pump was installed that was capable of delivering 100 gpm against a total dynamic head pressure of 120 feet. The pump intake was set at approximately 167 feet below top of casing (toc). The discharge included a flow control valve, totalizing meter, sampling port, and sufficient discharge hose to convey the water 400 feet away from the well head to preclude any recirculation. A drop pipe was also installed to enable placement of an electronic datalogger to record the water level in the well. A second datalogger was placed in a nearby, off-site domestic well in order to evaluate potential well interference.

The pump was installed in the Shriver well on June 1, 2010, and pumping was initiated at 12:08. The initial static water level (SWL) was 17.33 feet below toc. A step drawdown test was conducted, which consists of beginning pumping at a low rate, and progressively increasing the rate after 30 to 60 minutes of pumping. The pumping was extended after the step drawdown test for a total duration of 1,460 minutes (24.3 hours).

The initial pumping rate was 35.3 gallons per minute (gpm), and was followed by rates of 49.2 gpm and 84.4 gpm. Following the last step, the rate was decreased several times in order to determine a rate that would maintain the pumping water level (PWL) above the WBZ at 178 feet for an extended period of time. After 24 hours water quality samples were collected and the pumping was stopped and the well was permitted to recover. The water level monitoring continued for 2 more days. An electronic copy of the datalogger files for the Shriver well and the observation well are provided in Attachment 3.

Step Drawdown Test Result

A summary of the step drawdown test is as follows:

Table 1 - Shriver Well Step Drawdown Test Summary

Table 2 Striver from Step Brandonn 1000 Sammary									
Rate (Q)	Initial Water level	Final Water Level	Net Drawdown (Sw)	Specific Capacity (Q/Sw)	Specific Drawdown (Sw/Q)				
(gpm)	Feet Below TOC	Feet Below TOC	Feet	gpm/foot	feet/gpm				
35.4	17.52	45.98	28.46	1.24	0.80				
49.2	45.98	88.48	70.96	0.69	1.44				
84.4	88.48	150.00	132.48	0.64	1.57				

One purpose of the step drawdown test is to evaluate the laminar and turbulent flow components of the total drawdown in the well. A well borehole with a high turbulent flow component may benefit from increasing the diameter, which often reduces turbulent flow and permits the well to be pumped at a higher rate. Figure 3 portrays the Turbulent Flow Analysis for the Shriver well (as shown, it relies on the last 2 pumping steps because they had the same duration). The analysis indicates that at a pumping rate of 50 gpm, the turbulent flow accounts for approximately 12% of the borehole drawdown. Therefore, most of the drawdown observed in the borehole is attributed to actual aquifer

Mr. Bernard A. Yannetti, Jr., Esq. Advantage Project 1002004 March 26th, 2010 Page 3 of 6

drawdown. This finding was reflected in the well recovery after pumping stopped. Based on these findings, increasing the borehole would not significantly reduce the drawdown due to turbulent flow, and would probably not result in the ability to pump the well at a higher rate.

Extended Pumping Results

The extended pumping after the step drawdown was used to estimate a sustainable long term pumping rate, i.e., a rate that would preclude the pumping water level (PWL) from declining below the WBZ at 178 feet after continuous pumping for 3 to 6 months. Figure 4 portrays the well response to the step drawdown and extended pumping on a semi-logarithmic plot, which is useful for estimating long-term well performance. Rate reductions were made after the third pumping step to preclude lowering the PWL to the pump intake, but the PWL still declined to the intake. The last reduction to 45 gpm is labeled on Figure 4, and includes a trend projection to the WBZ at 178 feet, which would occur after only 3.5 days of continuous pumping. As previously stated, a long-term sustainable pumping rate should maintain the PWL above the WBZ; otherwise, there is risk of permanent loss of well yield due to mineral encrustation and fracture dewatering, and possible water quality issues due to cascading water (e.g., iron bacteria).

Figure 4 shows the PWL trend for the initial step drawdown rate of 35.5 gpm projected to the WBZ at 178 feet. The projection indicates that the PWL would not reach the WBZ for approximately 140 days of continuous pumping and no recharge to the aquifer, and therefore this rate would be considered to be sustainable. It should be noted that there is a large degree of uncertainty with such a long term projection of a short period of pumping.

The transmissivity of the aquifer was estimated using the Cooper Jacob Method¹ and the straight line segment from the initial rate of 35.5 gpm. Typically, the transmissivity from the initial aquifer response is most representative. The calculated transmissivity was 280 gallons per day/foot, which converts to 40 feet²/day. Assuming that the saturated interval of the borehole (i.e., 163 feet) approximates the aquifer thickness, the hydraulic conductivity is 0.2 feet/day. These values are somewhat low for a bedrock aquifer, and only considered to be approximate and subject to uncertainty. This is because the fractured bedrock setting does not meet all of the hydraulic conditions for the Cooper Jacob Method assumptions, such as an infinite and homogenous isotropic aquifer. However, it provides an approximation of the bedrock aquifer conditions.

Well Recovery

Figure 5 is a semi logarithmic plot of the well recovery following the Theis Method². What is noteworthy is the very slow recovery, which represents the amount of time required for the aquifer to return to the pre-pumping conditions. Typically, the recovery is acceptable if the water level returns to 90% of the pre-pumping water level within about 24 hours. In this instance, the well only recovered to 83% after 2 days, which is considered quite slow. The slow recovery is attributed to the

¹ Cooper, H. and Jacob, C., 1946, A generalized graphical method for evaluating formation constants and summarizing well-field history, Transactions of the American Geophysical Union, Vol. 27, pp. 526-534.

² Theis, C.V., 1935. The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, Am. Geophysical Union Trans., vol. 16, pp. 519-524.

Mr. Bernard A. Yannetti, Jr., Esq. Advantage Project 1002004 March 26th, 2010 Page 4 of 6

presence of the diabase bedrock, which functions similar to an impermeable wall. Therefore, effective aquifer recovery is limited to the conditions to the west of the Shriver well. This condition must be accounted for when evaluating the long-term production from the well, and indicates that if the well is over-pumped it would require several days or more of recovery to restore the yield.

The recovery also shows that the drawdown in the well very nearly matched the aquifer drawdown outside of the well. As can be seen, instead of an initial, rapid rise in the borehole followed by considerable slowing (when the aquifer drawdown is reflected by the well recovery), the recovery started slowly and continued as such.

Observation Well Response

A domestic well located at 2812 Emmitsburg Pike was used for aquifer observation during the Shriver well pumping. This well is located approximately 800 feet towards the east-northeast (see Figure 2). This location is oriented in the general direction of bedrock strike for the Gettysburg Formation, which is a preferential direction for aquifer drawdown to develop from a pumping well. An electronic datalogger automatically recorded the water level on a 10-minute frequency, and this data is shown on Figure 6, which is a hydrograph for the period of pumping and recovery at the Shriver well. There was no discernable change to the water level at the observation well, and based on this result, it is unlikely that groundwater withdrawals from the Shriver well would have any significant effect to this or any of the other existing wells in the vicinity of the Shriver well.

Summary of Shriver Well Capacity Testing

Based on the pumping and recovery responses, it is likely that the Shriver well in its current state could produce a <u>maximum</u> of 30 to 35 gpm on a regular basis. This withdrawal would provide between approximately 43,000 to 50,000 gallons per day (gpd). Due to the limitations to the aquifer recovery, this well could not be relied on as the sole source of potable water for the Mason Dixon development, which is expected to require 48,000 gpd during peak periods.

It is likely that deepening the well to at least 500 feet would intersect one or more additional WBZs. This would increase the hydraulic communication with the aquifer, and the sustainable production from the well.

Groundwater Quality

The end of pumping groundwater samples were submitted to Analytical Laboratory Services, Inc. (ALSI) and analyzed for the following parameters:

Volatile and Semivolatile Organic Compounds (VOCs and SVOCs)

Selected Metals

TDS

Nitrate

Sulfate

Bacteria

Most of these parameters have either a Primary or Secondary Drinking Water Standard (DWS), with Primary standards based on health risks, and secondary standards based on aesthetics (taste, odor, and/or staining). An exceedance of either a Primary or Secondary standard would require some form

Mr. Bernard A. Yannetti, Jr., Esq. Advantage Project 1002004 March 26th, 2010 Page 5 of 6

of treatment for use by a public water system (such as the Mason Dixon development). A copy of the analytical report is provided in Attachment 4, and a summary of the results is as follows:

- SVOCs none were detected
- VOCs none were detected, except for trace toluene at 3.8 parts per billion. The Primary DWS for toluene is 1,000 parts per billion, so the concentration is far below the DWS and requires no action. The source of the toluene cannot be determined, but it may be a false positive due to cross-contamination at the laboratory.
- TDS the concentration was 323 milligrams per liter (mg/L), and below the Secondary DWS of 500 mg/L. These are considered moderately elevated, but require no treatment.
- Nitrate the concentration was 2 mg/L, which is substantially below the 10 mg/L Primary DWS. Nitrate is often sourced from agriculture fertilizer, and at the Timeless Towns wells has been linked to the Gettysburg Foundry issue. However, this concentration is considered very low and does not warrant any action.
- Sulfate the concentration was 30.5 mg/L, and is within a typical range for natural levels in a bedrock aquifer
- Turbidity was 1.56 nephalometric turbidity units (NTU); unfiltered groundwater should have turbidity below 5 NTU, so this result warrants no action. Turbidity typically declines to <1 NTU after a well is regularly operated.
- Metals a total of 15 metals were analyzed for in the sample; most of the metals were previously detected in environmental samples collected at the Gettysburg foundry site. Most of these metals were not detected in the sample, except for the following (with applicable standard in parenthesis):

Aluminum - 0.19 mg/L (secondary DWS is 0.2 mg/L)

Copper - 0.0068 mg/L

Iron - 0.13 mg/L (secondary DWS is 0.3 mg/L)

Lead - 0.0023 mg/L

Manganese - 0.0055 mg/L (secondary DWS is 0.05 mg/L)

Vanadium - 0.011 mg/L (Act 2 Residential GW is 0.26 mg/L)

Zinc - 0.0073 mg/L (secondary DWS is 5.0 mg/L)

These metal results are within the typical range of concentrations for groundwater sourced from a bedrock aquifer, with the exception of vanadium which is typically not analyzed for in a drinking water sample. Excluding vanadium, each of the detected metals was not present at a significant concentration. The aluminum was just below the Secondary DWS, but it is likely that the aluminum, as well all of the detected metal concentrations, would decrease with regular pumping, since residual, suspended mineral matter from the well drilling can result in the presence of some metals.

The vanadium concentration is substantially lower than the PADEP Act 2 limit for residential exposure. Act 2 includes environmental cleanup standards for soil and groundwater. Although these standards are not usually applied to drinking water, they provide some framework for concluding that the detected vanadium concentration is low, and does not warrant any further action. It is probable that the vanadium is naturally occurring.

Overall, the water quality results indicate that the groundwater from the Shriver well is of good quality, and would likely not require treatment except for simple disinfection, and possibly iron and manganese, as these are common constituents in groundwater sourced from the Gettysburg

Mr. Bernard A. Yannetti, Jr., Esq. Advantage Project 1002004 March 26th, 2010 Page 6 of 6

Formation. There was no evidence that the groundwater was impacted by the various issues associated with the Gettysburg Foundry.

Recommendations

In order to develop a sustainable source for a public water system to service the proposed Mason Dixon development, Advantage recommends the following actions:

- 1. Deepen the Shriver well to determine whether the sustainable pumping rate can be increased.
- 2. Drill a second supply well at the Shriver property at a location further west and south. A second well is necessary for the system in order to preclude over pumping and to ensure the long-term sustainability of the water supply. If a second well is not constructed, the existing Timeless Towns wells will be required to remain in service as a back up source.
- Any well used for the proposed development must be reconstructed to meet PADEP requirements for a public water supply well, including permanent casing adequately seated in bedrock with full annular space grouting.

Advantage appreciates the opportunity to assist you on this project. Should you have any questions regarding this evaluation or if we may be of further assistance, please do not hesitate to contact us at 717 458-0800.

REGISTEREDA PROFESSIONAL STEVEN R. READ

GBOLOGIST
P6001641G

VNSYL

Very truly yours,

ADVANTAGE ENGINEERS

K. Kand

Edul S. Belsynsen

Steven R. Read, P.G. Senior Hydrogeologist

Edward L. Balsavage, P.E.

Principal

Attachments 1 through 4

ATTACHMENT 1

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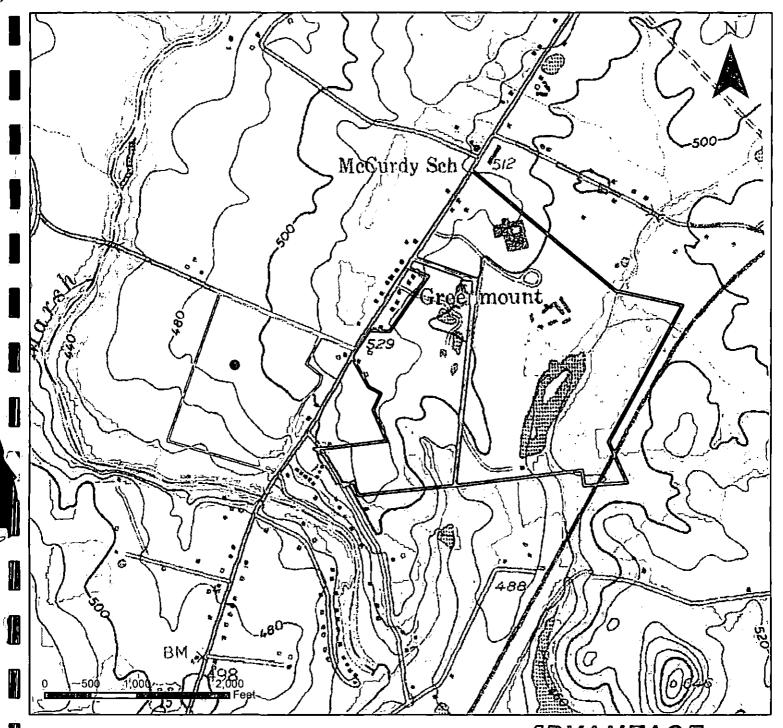


Figure 1 - USGS Topographic Map Fairfield PA, 7.5 Minute Quadrangle

ADVANTAGE ENGINEERS

Timeless Towns of America Site

Cumberland Township Adams County, Pennsylvania

Advantage Project #: 100200401 June 2010

Subject Property
Gettysburg Foundry Property
Shriver Property

Shriver Well



Figure 2 - Aerial Photograph 2003 PASDA Aerial Photography

ADVANTAGE NGINEERS

Shriver Well

Subject Property

Shriver Property

Shriver Well

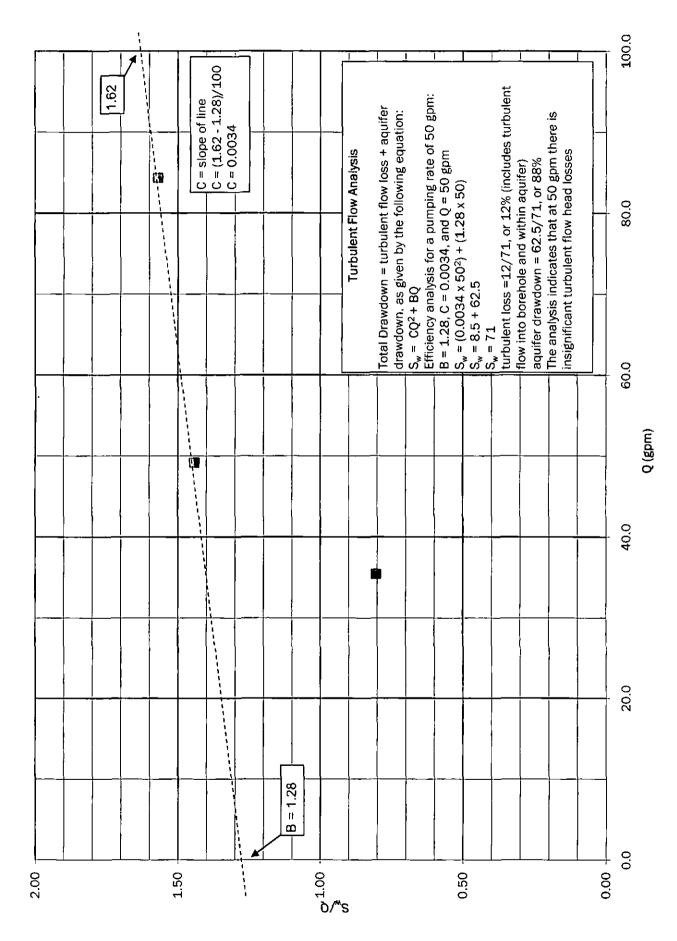
Observation Well

Cumberland Township Adams County, Pennsylvania

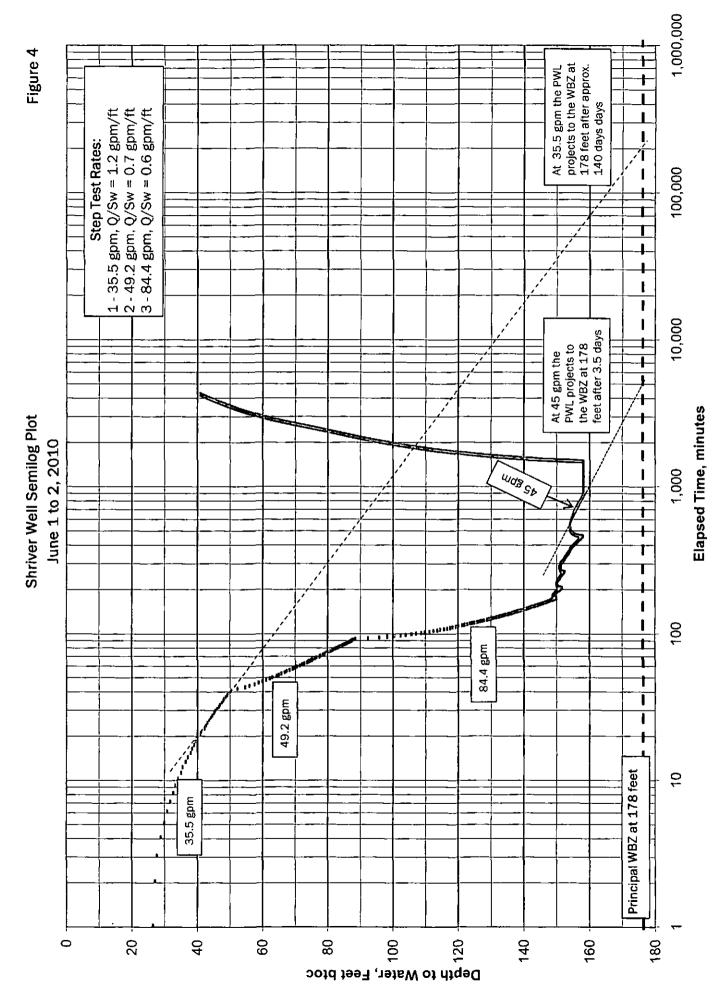
Advantage Project #: 100200401 June 2010

Geologic Contact

Shriver Well Turbulent Flow Analysis

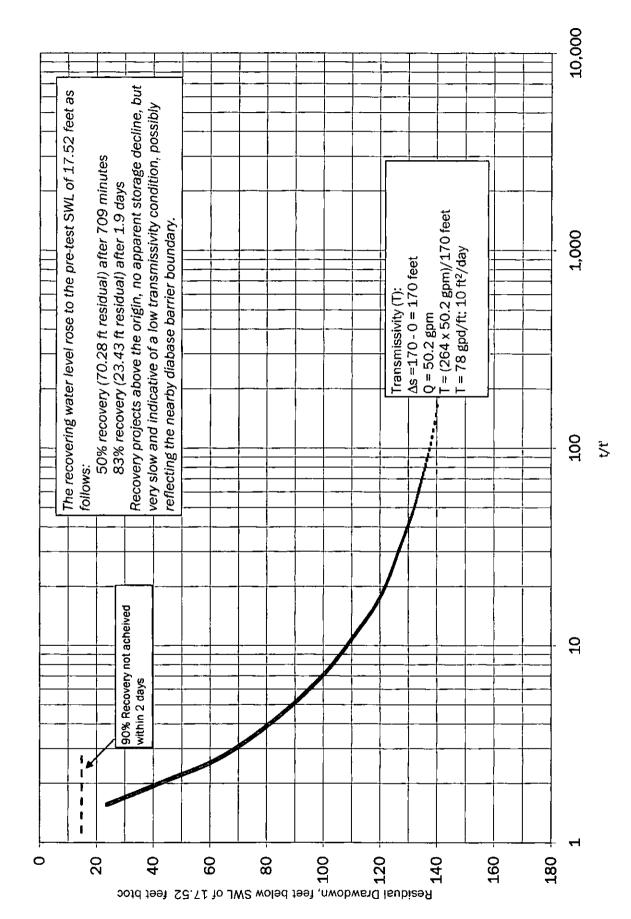


Advantage Engineers Project 1002004

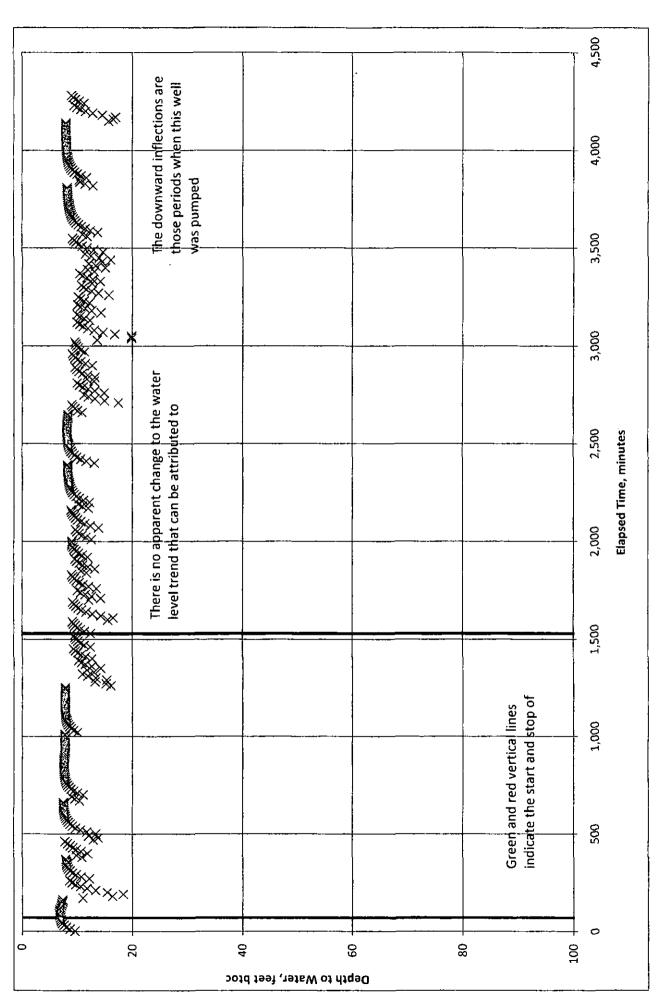


Advantage Engineers Project 1002004

Shriver Well Residual Drawdown June 2 to 4, 2010



Observation Well Hydrograph 2812 Emmitsburg Road June 1 to 3, 2010



Advantage Engineers Project 1002004

ATTACHMENT 2

Shriver Well Background Information

If this portion is traced, please give source.

WELL DRILLER

Indicate route numbers, intersections, schools, churches, cemeteries, streams, towyls and any notable feature such bridges, railroads, etc. Be sure to show distances between these features (miles/feet)

8700-FM-TG\$50015 Rev. 5/95

I hereby certify that the above information is true and complete to the best

I/19/10 owner's assuments: E.R. SHRIVER

The 6"dis. well is for a single family. Insolved 100 gol/Min.

Diller recommends re-drill with an 8" drill bit.

(SAFER Well - to mires & yield.)

Also, drill Additions (wells.

It is shale ground (not disbase.) see Geology May

Tudister good water supply.

100 gol./Min. = 140,000 gol/day



Pennsylvania Department of Environmental Protection

909 Elmerton Avenue Harrisburg, PA 17110-8200 July 25, 2000

Southcentral Regional Office

717-705-4705 FAX 717-705-4830

Ernest Shriver 344 Gordon Road Fairfield, PA 17320

Dear Ernest Shriver:

As you recall, personnel from the Department sampled your well during the week of May 22-26, 2000. The water was analyzed for inorganic compounds (metals) as well as nitrates, chlorides, and TDS (total dissolved solids). Enclosed are the results of that sampling event. The results show that none of the compounds detected exceed Pennsylvania drinking water standards.

If you have any questions on these results, please contact me at 717-705-4833.

Sincerely,

Ruth Bishop

Environmental Chemist

Ruth Bishop

Environmental Cleanup Program

Enclosure





Page 1 of 2

Lancaster Laboratories Sample No. WW 3388547

Collected: 05/25/2000 10:15 by RB

Submitted: 05/26/2000 14:20 Reported: 06/22/00 at 03:02 PM

Discard: 6/30/00

00517 Grab Water Sample

SITE ID: 3-527 SAMPLE ID: 00517

PA

00517 SDG#: PAE28-01

Account Number: 06195

PA Dept. of Env. Protection Rachel Carson Off.Bldg. 14th F

PO Box 8471

Harrisburg PA 17105-8471

	•			As Received		
CAT			As Received	Limit of		Dilution
No.	Analysis Name	CAS Number	Result	Quantitation	Units	Factor
00259	Mercury	7439-97-6	< 0.00020	0.00020	mg/l	1
01743	Aluminum	7429-90-5	< 0.200	0.200	mg/l	1
01744	Antimony	7440-36-0	< 0.200	0.200	mg/l	1
01746	Barium .	7440-39-3	< 0.100	0.100	mg/l	1
01747	Beryllium	7440-41-7	< 0.0100	0.0100	mg/l	1
01749	Cadmium	7440-43-9	< 0.0100	0.0100	mg/l	1
01750	Calcium	7440-70-2	60.6	0.200	mg/l	1
01751	Chromium	7440-47-3	< 0.0300	0.0300	mg/l	1
01752	Cobalt	7440-48-4	< 0.0500	0.0500	mg/l	1
01753	Copper	7440-50-8	< 0.0250	0.0250	mg/l	ı
01754	Iron	7439-89-6	5.64	0.100	mg/l	1
01757	Magnesium	7439-95-4	22.9	0.100	mg/l	1
01758	Manganese	7439-96-5	0.0458	0.0100	mg/l	1
01761	Nickel	7440-02-0	< 0.0500	0.0500	mg/l	1
01762	Potassium	7440-09-7	2.47	0.500	mg/l	1
01766	Silver	7440-22-4	< 0.0200	0.0200	mg/l	1
01767	Sodium	7440-23-5	9.48	0.600	mg/l	1
01771	Vanadium	7440-62-2	< 0.0200	0.0200	mg/l	1
01772	Zinc	7440-66-6	< 0.0250	0.0250	mg/l	1
07022	Thallium TR	7440-28-0	< 0.0200	0.0200	mg/l	1
07035	Arsenic TR	7440-38-2	< 0.0100	0.0100	mg/l	1
07036	Selenium TR	7782-49-2	< 0.0100	0.0100	mg/l	1
07055	Lead TR	7439-92-1	< 0.0200	0.0200	mg/l	1
00212	71.5 Total Dissolved Solids	n.a.	317.	30.	mg/l	1
01124	70.9 Chloride (citrimetric)	16887-00-6	.14.9	1.0	mg/l	1
07882	72.3 Total Nitrite/Nitrate	7727-37-9	2.04	0.10	mg/l	1
08255	30.5 Total Cyanide (water)	57-12- 5	< 0.0050	0.0050	mg/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037

Laboratory Chronicle

CAT

Analysis

Bilution

No. Analysis Name

Method

Trial# Date and Time

Analyst

Factor

00259 Mercury

SW-846 7470A

1 06/14/2000 11:47 Rosalind D. Ernest

...



ATTACHMENT 3

Datalogger Files

ATTACHMENT 4

Analytical Report



www.analyticallab.com KELAF Accredited PA 22-293 NJ PA010



34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

CONTRACTOR CONTRACTOR OF COMPLETE AND CONTRACTOR OF CONTRA	to the contract of the experience of the experience of the contract of the con	PLANTA CARTERNA DE APOSTELANO, COM NEGLA TORIO, COMPENSA CONTRA PORTO.	Control Control of the control of th
	L PWS WELL-PA SITE	The state of the s	
Project-Name: No POTENTA	71: PUNK WHI KEPAKKI PAK	シー・バルレスしいしんしゃかん たっかかいかい	成者,如约1.7 。 "" 在文艺的人,"" "" "" "" "" "" "" "" "" "" "" "" "" "
			新建设设置 1 4 8 2 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
\$2000000000000000000000000000000000000	等。在一个个人的,我们就是这个人的,我们就是这个人的。""我们就是这样。"	The same of the same of	\$
	1、 "我们还是一个人,我们可以是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就		
Purchase Order:	医乳体 医马克特氏 医阿拉克氏试验检试验 经国际工作工作	Workomer ID: Shriver	Wall and the second sec
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Mr. Steven Read Advantage Engineers 910 Century Drive Mechanicsburg, PA 17055

June 17, 2010

Dear Mr. Read,

Enclosed are the analytical results for samples received by the laboratory on Wednesday, June 02, 2010

ALSI is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Baer (Project Coordinator) or Anna G Milliken (Laboratory Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALSI's NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

This laboratory report may not be reproduced, except in full, without the written approval of ALSI.

NOTE: ALSI has changed the report generation tool and while we have tried to retain the existing format, you will notice some changes in the laboratory report. Please feel free to contact ALSI in case you have any questions.

Analytical Laboratory Services, Inc.

CC: Mr. Pierre Macoy

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Anna G Milliken Laboratory Manager

Report ID: 9847808 Page 1 of 8



www.analyticallab.com **NELAP Accredited** NJ PACIO PA 22-293



34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-554f Fax: 717-944-1450

SAMPLE SUMMARY

Workorder: 9847808 Shriver Well Discard Date: 07/01/2010

Lab (D	Sample ID	Matrix	Date Collected	Date Received	Collected By
9847808001	Pumping Well	Water	6/2/10 12:30	6/2/10 14:26	Pierre Macoy

Workorder Comments:

Notes

- -- Samples collected by ALSI personnel are done so in accordance with the procedures set forth in the ALSI Field Sampling Plan (20 -Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- -- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.

Standard Acronyms/Flags

J, B	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
------	--

U Indicates that the analyte was Not Detected (ND)

MDL Method Detection Limit

PQL Practical Quantitation Limit RDL Reporting Detection Limit

ND Not Detected - indicates that the analyte was Not Detected at the RDL

Cntr Analysis was performed using this container

RegLmt Regulatory Limit

LCS Laboratory Control Sample

MS Matrix Spike

MSD Matrix Spike Duplicate

DUP Sample Duplicate

%Rec Percent Recovery

RPD Relative Percent Difference

Report ID: 9847808 Page 2 of 8



www.analyticallab.com NELAF Accredited PA 22-293 NJ PA010



34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

ANALYTICAL RESULTS

Workorder: 9847808 Shriver Well

Lab ID: 9847808001 Date Collected: 6/2/2010 12:30 Matrix: Water

Sample ID: Pumping Well Date Received: 6/2/2010 14:26

Participation of the Control of the	Carrier-Parkers	and the factor of the	Company of the Company	<u>स्थानेतृत्वे वर्षः स्थानेतृत्वे स्थ</u>	entra esta antica presentativa esta esta esta esta esta esta esta est	er etteralationer v	1. B. B.	and the property of the	الدوران وروح	Sargeria wang pendagaikan d
Parameters	Results	Flag	Units	RDL	Method y	Prepared	Ву	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND		ug/L	10.0	SW846 8260B			6/11/10 20:39	DD	С
Benzene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Bromochloromethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Bromodichloromethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Bromoform	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Bromomethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
2-Butanone	ND		ug/L	10.0	SW846 8260B			6/11/10 20:39	OQ	С
Carbon Disulfide	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Carbon Tetrachloride	ИD		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Chloroethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Chloroform	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Chloromethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
1,2-Dibromo-3- chloropropane	ND		ug/L	7.0	SW846 8260B			6/11/10 20:39	DD	С
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Ċ
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	C
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Ċ
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Č
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DĐ	Ċ
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Č
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Č
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Č
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Č
2-Hexanone	ND		ug/L	5.0	SW846 8260B			6/11/10 20:39	DD	č
4-Methyl-2- Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			6/11/10 20:39	DD	Ċ
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	С
Styrene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Ċ
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Č
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	č
Toluene	3.8		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Č
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/11/10 20:39	DD	Ċ
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Č
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Ċ
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	C
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	C
o-Xylene	ND		ug/L ug/L	1.0	SW846 8260B			6/11/10 20:39	DD	Č
mp-Xylene	ND		ug/L	2.0	SW846 8260B			6/11/10 20:39	DD	C
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichloroethane-d4 (S)	82.2		%	62-133	SW846 8260B	 -		6/11/10 20:39	DD	С
4-Bromofluorobenzene (S)			% %	79-114	SW846 8260B			6/11/10 20:39	DD	Č
, ,	89.1				SW846 8260B					C
Dibromofluoromethane (S)	87.2		%	78-116 76-127				6/11/10 20:39	DD	C
Toluene-d8 (S)	89.5		%	76-127	SW846 8260B			6/11/10 20:39	DD	C



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34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

ANALYTICAL RESULTS

Workorder: 9847808 Shriver Well

Lab ID: 9847808001

Date Collected: 6/2/2010 12:30

Matrix:

Water

Sample ID: Pumping Well

Date Received: 6/2/2010 14:26

Parameters	Results Flag	Units	RDL	Melhed	Prepared	Ву	Analyzed	By	Cntr
SEMIVOLATILES									
Acenaphthene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Acenaphthylene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10-09:09	CHS	E1
Anthracene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Benzo(a)anthracene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Benzo(a)pyrene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Benzo(b)fluoranthene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Benzo(g,h,i)perylene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Benzo(k)fluoranthene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
4-Bromophenyl-phenylether	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CH\$	E1
Butylbenzylphthalate	ИD	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Carbazole	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
4-Chloro-3-methylphenol	ND	ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
4-Chloroaniline	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Bis(2-Chloroethoxy)methane	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Bis(2-Chloroethyl)ether	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
bis(2-Chloroisopropyl)ether	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2-Chloronaphthalene	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2-Chlorophenol	ND	ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
4-Chlorophenyl-phenylether	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Chrysene	ИD	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
mp-Creso)	ND	ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
o-Cresol	ND	ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Di-n-Butylphthalate	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Di-n-Octylphthalate	ND	ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Dibenzo(a,h)anthracene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Olbenzofuran	NO	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
1,2-Dichlorobenzene	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
1,3-Dichlorobenzene	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
1,4-Dichlorobenzene	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
3,3-Dichlorobenzidine	ND	ug/L	15.2	SW846 8270D SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1 E1
2,4-Dichtorophenol	ND	ug/L	7.6 7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Diethylphthalate	ND ND	ug/L	7.6 7.6	SW846 8270D	6/4/10 6/4/10	CAC	6/8/10 09:09 6/8/10 09:09	CHS	E1
2,4-Dimethylphenol	ND ND	ug/L	7.6 7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Dimethylphthalate	ND ND	ug/L ug/L	7.0 15.2	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2,4-Dinitrophenol 2,4-Dinitrotoluene	ND	ug/L ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2,6-Dinitrotoluene	ND	ug/L ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
bis(2-Ethylhexyl)phthalate	ND	ug/L ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Fluoranthene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Fluorene	ND	ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Hexachlorobenzene	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Hexachlorobutadiene	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Hexachlorocyclopentadiene	ND	ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Hexachloroethane	ND	ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
TO ALCHOTOGUANCE		ogre 	2.0	0110 10 021 00	01-1110	0,10	3/0/10 09:00	0,10	

SW846 8270D

1.4

ug/L

Indeno(1,2,3-cd)pyrene

ND

6/4/10 CAC 6/8/10 09:09 CHS E1



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PA 22-293 NJ PA010



34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

ANALYTICAL RESULTS

Workorder: 9847808 Shriver Well

Lab ID: 9847808001

Date Collected: 6/2/2010 12:30

Matrix: Water

Sample ID:

Pumping Well

Date Received: 6/2/2010 14:26

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Parameters 7	Results	Flag	Units ?	RDL	Method	Prepared	By	Analyzed	ु By	Cntr
Isophorone	ND		ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2-Methyl-4,6-dinitrophenol	ND		ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2-Methylnaphthalene	ND		ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Naphthalene	ND		ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2-Nitroaniline	ND		ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
3-Nitroaniline	ND		ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
4-Nitroaniline	ND		ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Nitrobenzene	ND		ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2-Nitrophenol	ND		ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
4-Nitrophenol	ND		ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
N-Nitroso-di-n-propylamine	ND		ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
N-Nitrosodiphenylamine	ND		ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Pentachlorophenol	ND		ug/L	15.2	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Phenanthrene	ND		ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Phenol	ND		ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Pyrene	ND		ug/L	1.4	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
1,2,4-Trichlorobenzene	ND		ug/L	2.8	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2,4,5-Trichlorophenol	ИD		սց/Լ	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2,4,6-Trichlorophenol	ИD		ug/L	7.6	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Surrogate Recoveries	Results	Flag	Units	Limits	Method	_Prepared	Ву	Analyzed	Ву	Cntr
2,4,6-Tribromophenol (S)	73.6		%	40-125	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Phenol-d5 (S)	32.3		%	13-49	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Terphenyl-d14 (S)	71.6		%	50-122	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
Nitrobenzene-d5 (S)	73.5		%	40-110	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E 1
2-Fluorobiphenyl (S)	73.8		%	50-110	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
2-Fluorophenol (S)	50.9		%	20-75	SW846 8270D	6/4/10	CAC	6/8/10 09:09	CHS	E1
WET CHEMISTRY										
Nitrate-N	2.0		mg/L	0.20	EPA 300			6/3/10 17:32	J1H	В
pH	7.84		pH_Units		SM4500B			6/3/10 05:11	SAD	В
Sulfate	30.5		mg/L	2.0	EPA 300			6/3/10 17:32	J1H	В
Total Dissolved Solids	323		mg/L	5	SM20-2540 C			6/4/10 13:05	KAK	В
Turbidity	1.56	1	NTU	0.10	SM 2130B			6/9/10 09:00	LMM	В
METALS										
	0.40		ma/l	0.040	EPA 200.8	6/7/10	MNP	6/16/10 20:12	AJB	A2
Aluminum, Total	0.19		mg/L	0.040	EPA 200.8					A2 A2
Antimony, Total	ND		mg/L	0.0010	EPA 200.8 EPA 200.8	6/7/10	MNP	6/16/10 15:37	AJB	A2 A2
Arsenic, Total	ND		mg/L	0.0015	EPA 200.8	6/7/10	MNP	6/16/10 20:12	AJB AJB	A2 A2
Barium, Total	ND		mg/L	0.0025	EPA 200.8 EPA 200.8	6/7/10	MNP	6/16/10 20:12	AJB	A2 A2
Beryllium, Total	ND		mg/L	0.00050		6/7/10		6/16/10 20:12	_	A2 A2
Cadmium, Total	ND		mg/L	0.00050	EPA 200.8	6/7/10	MNP	6/16/10 15:37	AJB	
Chromium, Total	ND		mg/L	0.0010	EPA 200.8	6/7/10	MNP	6/16/10 15:37	AJB	A2
Copper, Total	0.0068		mg/L	0.0025	EPA 200.8	6/7/10	MNP	6/16/10 15:37	AJB	A2
Iron, Total	0.13		mg/L	0.030	EPA 200.7	6/4/10	KMK	6/8/10 18:01	JWK	A1
Lead, Total	0.0023		mg/L	0.0010	EPA 200.8	6/7/10	MNP	6/16/10 15:37	AJB	A2
Manganese, Total	0.0055		mg/L	0.0025	EPA 200.8	6/7/10	MNP	6/16/10 15:37	AJB	A2



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34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

ANALYTICAL RESULTS

Workorder: 9847808 Shriver Well

Lab ID: 9847808001 Date Collected: 6/2/2010 12:30

Water Matrix:

Sample ID: **Pumping Well** Date Received: 6/2/2010 14:26

Results F	lag), Units	RDL*(\$\frac{1}{2})	Method	Prepared	By.	∻ Analyzed I	≟ By	Cntr &
ND	mg/L	0.0025	EPA 200.8	6/7/10	MNP	6/16/10 15:37	AJB	A2
ND	mg/L	0.0020	EPA 200.8	6/7/10	MNP	6/16/10 20:12	AJB	A2
0.011	mg/L	0.0010	EPA 200.8	6/7/10	MNP	6/16/10 15:37	AJB	A2
0.0073	mg/L	0.0025	EPA 200.8	6/7/10	MNP	6/16/10 20:12	AJB	A2
ND	col/100mL	1	SM20-9223			6/3/10 17:01	LLJ	G
ND	col/100mL	1	SM20-9223	6/2/10	LLJ	6/3/10 17:01	LLJ	G
	ND ND 0.011 0.0073	ND mg/L ND mg/L 0.011 mg/L 0.0073 mg/L	ND mg/L 0.0025 ND mg/L 0.0020 0.011 mg/L 0.0010 0.0073 mg/L 0.0025 ND col/100mL 1	ND mg/L 0.0025 EPA 200.8 ND mg/L 0.0020 EPA 200.8 0.011 mg/L 0.0010 EPA 200.8 0.0073 mg/L 0.0025 EPA 200.8 ND col/100mL 1 SM20-9223	ND mg/L 0.0025 EPA 200.8 6/7/10 ND mg/L 0.0020 EPA 200.8 6/7/10 0.011 mg/L 0.0010 EPA 200.8 6/7/10 0.0073 mg/L 0.0025 EPA 200.8 6/7/10 ND col/100mL 1 SM20-9223	ND mg/L 0.0025 EPA 200.8 6/7/10 MNP ND mg/L 0.0020 EPA 200.8 6/7/10 MNP 0.011 mg/L 0.0010 EPA 200.8 6/7/10 MNP 0.0073 mg/L 0.0025 EPA 200.8 6/7/10 MNP ND col/100mL 1 SM20-9223	ND mg/L 0.0025 EPA 200.8 6/7/10 MNP 6/16/10 15:37 ND mg/L 0.0020 EPA 200.8 6/7/10 MNP 6/16/10 20:12 0.011 mg/L 0.0010 EPA 200.8 6/7/10 MNP 6/16/10 15:37 0.0073 mg/L 0.0025 EPA 200.8 6/7/10 MNP 6/16/10 20:12 ND col/100mL 1 SM20-9223 6/3/10 17:01	ND mg/L 0.0025 EPA 200.8 6/7/10 MNP 6/16/10 15:37 AJB ND mg/L 0.0020 EPA 200.8 6/7/10 MNP 6/16/10 20:12 AJB 0.011 mg/L 0.0010 EPA 200.8 6/7/10 MNP 6/16/10 15:37 AJB 0.0073 mg/L 0.0025 EPA 200.8 6/7/10 MNP 6/16/10 20:12 AJB ND col/100mL 1 SM20-9223 6/3/10 17:01 LLJ

Sample Comments:

Laboratory Manager

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ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder: 9847808 Shriver Well

PARAMETER QUALIFIERS\FLAGS

[1] Analyte was analyzed past the 48 hour holding time.



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CHAIN 'OF C REQUEST FOR ALL SHADED AREAS MUST. CLIENT/SAMPLER, INSTRI	Wo Shit					ALSI 02/08 # 104/334	the act:	19kr		Sample Millerry Data Tilmo		alle		7-4	- hilliam		P. 1		-	" Skyps "	ę.	2 2	8	80	10	Af-Air: Deav Detering Weine Gre
inc. Prismos Sti-Fer Tright 1830	61-Victory Phone:	÷ <u>₹</u>	\$)	POS	;	_	INFECIAL EAGENT: (BY		COC Comments.		134-13a an		Therhoppy was an	after the 18 box	111、十二十二十	bgin my Dag	ing nithed	LOGOED BY SUP-TONE	REVIEWED BYRIN-stem):	Datts	2/1/2/1/3	-			C-Compastia
Analytical Laboratory Services, Inc. Cotomoratel · tecase Hope : sea service 30 togression i societiem. In 1995 - 37244 5541 - Free T	Contact from as Picker MACOY	Address: 91.º Cont Dill	1 President 19.00	• • • • • • • • • • • • • • • • • • •	Bill to profession try septiles:	Project Nameth, SHRITVER LUCIL	TAT: TROOM ASSENDED TAT IS 10-12 besiness days.	Emility 12/4 PMAKey P AD PAINTE	17 F. (Ba).	Sample Description/Location	Purphy Well			-		7	2			KICKE MIKON	Relinquished By Company frame	ANDWING A				GEO.O.